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ABSTRACT

This guide contains 15 articles that discuss materials to be used for ethnohistorical research; the guide also serves as a textbook for courses on ethnohistory and related subjects. The articles are: "The Anthropological Use of Historic Documents" (D. Wiedman); "Public Documents as Primary Sources for Ethnohistorical Research: The Mattamuskeet Model" (P. H. Garrow); "Using Missionary Documents in Ethnohistorical Research" (D. Whiteman); "Using Census Manuscripts in Ethnohistoric Reconstruction: An Example from South Carolina" (M. H. Morgan); "Methods for Evaluating the Accuracy of Census Reports as Ethnohistorical Demographic Data: A Brief Assessment of Pima and Maricopa Populations" (G. W. Meister); "Plantation Maps as Sources for the Study of West Indian Ethnohistory" (B. W. Higman); "Visual Ethnohistory: Photographs in the Study of Culture History" (M. B. Blackman); "Dating Photographs" (A. R. Pilling); "The Unrealized Potential of Remote Sensing in Ethnohistorical Research" (L. Kruckman); "Oral History Interviews: Some History and Practical Suggestions" (M. E. Willson); "The Use of Reminiscences and Oral Tradition in the Study of Ethnohistory" (J. B. Page); "Artifactual Documents: Ethnological Museum Collections as an Ethnohistorical Resource" (B. Reynolds); "Doing Ethnohistory with Old Newspapers: The Study of an Andean Peasant Movement of 1885" (W. W. Stein); "The Judicial Records of Colonial Louisiana: Sources of Ethnohistory" (J. D. Castle); and "Black Carib Settlement Patterns in Early 19th Century Honduras: The Search for a Livelihood" (C. D. Cheek and N. L. Gonzalez). (DJC)

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Ethnohistory:
A Researcher's Guide

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THE ANTHROPOLOGICAL USE OF HISTORIC DOCUMENTS

DENNIS WIEDMAN
Florida International University

Historical documents have become vitally important as sources of data for the study of ethnic groups throughout the world. The enormous quantity of documentary records generated by culture contact and acculturation provide a storehouse of information for the researcher. This documentary evidence includes not only legal papers, government manuscripts, newspapers as well as other written sources, but also maps, photographs, recorded oral traditions, and museum collections. In order for time-efficient and valid studies to take place, a methodological understanding of these documentary forms is essential. The editor of this volume realized this need and solicited collaboration and contributions through professional newsletters and professional conferences. The articles included here represent a variety of documentary sources used by ethnohistorians. The goal of this guide is to describe a wide range of such historic source materials so that the researcher unfamiliar with the documents can easily gain familiarity with the types of materials available, their uses, reliability, and the special techniques involved in their utilization. This guide will also serve as a textbook for courses on ethnohistory, with wider use as collateral reading in courses dealing with historiography and anthropological methods. This presentation of documentary sources should prove valuable not only for research methods courses, but also for the nonprofessional interested in reconstructing family, community, ethnic and social histories.

During the early days of anthropology scholars generally believed that, as a distinct discipline, anthropology should devote itself to the study of non-western, preindustrial and nonliterate societies. By the mid-twentieth century, however, after several hundred years of colonialism and two World Wars, few "pristine" nonliterate societies existed which could be utilized as scientific testing grounds. The increased interaction between western and non-western societies led anthropologists to an interest in culture change and in use of historical documents as a source of information and theoretical formulation.

By becoming more involved in the study of societies in transition anthropologists also became aware of the massive amount of data obtainable from government, missionary, business and travel documents dealing with the populations anthropologists were studying. Such sources proved especially valuable when researchers desired to do diachronic analyses over a long period of time for groups whose own accounts of the past lacked time depth. The addition of documentary data sources to the repertoire of traditional ethnographic field methods readily suited the interests of American anthropologists in constructing culture history. On the other hand, European anthropologists, especially British social anthropologists, accepted this methodology with reluctance due to their stress upon synchronic analysis and their distrust of the speculative historical reconstructions made by American culture historians, and especially by the earlier evolutionists.

The recognition by British social anthropologists of the value of historical methods is apparent in the writings of the British scholar E.E. Evans-Pritchard. He writes (1961:10):

> Now, I would say that the tendency in the past, and even today, to overestimate what are called functional ethnographic studies of primitive societies at the expense of developmental studies, and even to ignore historical facts altogether, has prevented us from testing the validity of some of the basic assumptions on which our studies have for long rested....

The French structural anthropologist Claude Levi-Strauss (1963), also recommended the use of documents. He indicates that those who ignore history condemn themselves to not knowing the present and that knowledge of historical developments enable us to weigh and to evaluate the relationship of elements existing in the present.

In contrast to European anthropologists, those in the United States readily used documentary data sources as early as the 1940s. An interesting change in terminology accompanied this transition, for today many anthropologists use the term "ethnohistory" interchangeably with "culture history," or have replaced the older term "culture history" with the term "ethnohistory."

This transition in terminology can be traced historically beginning with the definition of anthropology proposed by the American anthropologist, Alfred Kroeber, a leading proponent of "culture history" in the early 1900s.

> Of all the social sciences, anthropology is perhaps the most distinctively culture-conscious. It aims to investigate human culture as such: at all times, everywhere, in all its parts and aspects and workings. It looks for generalized findings as to how culture operates--literally, how human beings behave under given cultural conditions--and for the major developments of the history of culture (Kroeber 1923:11).

In 1916 Edward Sapir described research methods to be used in understanding data which are the remains of specific events from the remote past. These methods include the use of native testimony, historical documents, stratified archeological evidence, the evidence of human physical types, and of population densities as well as the geographic tracing of culture traits as they spread between groups (Sapir 1916:1-15).

By the 1950s, the subdiscipline of "ethnohistory" had developed. This subdiscipline grew from a refinement of the techniques and methods of historical reconstruction. More broadly viewed, the development of this specialization within anthropology also coincides with the development of glottochronology in linguistics, of chemical dating methods in archeology, and of biochemical anthropomorphic measurement in physical anthropology. Increasing refinements in the research techniques and methods also increased the degree of specialization of these fields further differentiating them within anthropology. Although each of these fields continued to concern itself with the reconstruction of past culture, they represent a more specialized approach than that proposed by Sapir.

An impetus for specialization in the use of historical documents resulted from the dramatic increase in studies of culture change throughout the world as well as the enormous quantity of anthropological research in the United States responding to the Indian Claims Commission of 1946, whereby Indian groups could settle centuries old land disputes with the United States government. A result of this increased use of documentary sources by anthropologists was the founding of a journal specifically for the publication of ethnohistoric research entitled Ethnohistory. The transition from the use of the term "culture history," to the term "ethnohistory," is documented in this journal. In 1955 the first complete volume described the purpose of the journal: "Ethnohistory is a quarterly journal devoted to original research in the documentary history of the culture and movements of primitive peoples, with special emphasis on the American Indian (Ethnohistory 1955)." By the late 1960's the stated purpose of Ethnohistory was to publish articles: "relating to general culture history and process, and the specific history of peoples on all levels of sociocultural organization emphasizing that of primitives and peasantries, in all world areas" (Ethnohistory 1966). In 1971 the emphasis was changed from "primitives and peasantries" to that of nonindustrial peoples. Thus, the leading journal for ethnohistorical research reflects the transition in the subject of "ethnohistory," from its original focus on the limited time depth covered by the documentary history of primitive peoples to a focus on culture history in general. [The historical development of ethnohistory is discussed further by Sturtevant (1966,) Carmack (1972) and Cohn (1968).]

Carmack (1972:235-238) indicates why the subject of ethnohistory has become synonymous with culture history. In his review of ethnohistorical literature he finds that specific history, historical ethnography, and folk history are the most common areas of study by ethnohistorians. By specific history he means the writing of histories of specific societies in terms of past events or culture traits as manifested in time, space, and concrete act. Historical ethnography is the process of reconstructing past societies and culture in the context of institutions or as cultural wholes. Folk history examines the views that a society has of its own past.

Considering this transition in terminology, at least two meanings are currently in use for the term "ethnohistory." In one sense it refers to the subject of ethnohistory as the culture history of a specific society, utilizing all possible methods of data collection without limit to the time depth. In another sense ethnohistory is a research strategy which aims at the precise use of historical methods to study the culture history of a particular group.

By the 1950's the subdivision of ethnohistory within anthropology had combined the theoretical orientation and problems of anthropology with the techniques and methods of the discipline of history. In contrast to anthropology, the discipline of history was traditionally interested in the study of literate societies. This restricted historians to cultures whose roots were based on the traditions of Mesopotamia and Egypt where writing developed, and also to literate Oriental civilizations. Historians mostly abstained from deriving generalizations and descriptive theories about culture which are the basis of anthropology, and they primarily focused on unique events and personalities. The adoption by anthropology of historical methods in the form of ethnohistory was not, however, a one way street. Many contemporary historians now believe that the study of history in its complexity requires the use of social science concepts and methods (Hexter 1968, Berkhofer 1969). This behavioral approach to history by historians implies a recognition of the fact that it is impossible to construct a historical narrative without having a conceptual framework to tie the facts together. Furthermore, these historians recognize that such a framework, even if not explicitly recognized, nonetheless exists and colors the "objective" analysis of human history (Axtell 1979).

The primary contribution of the historian to anthropology is a set of time-tested tools, the historical method. Expressed in formal fashion by such historians as Marc

Bloch (1962), Page Smith (1964) and Gene Wise (1973), this method enables the anthropologist to utilize data previously considered inapplicable to his analysis. The historian Gottschalk (1950:28) provides us with four core essentials of the historic method:

1) the collection of the surviving objects and of the printed, written, and oral materials that may be relevant.
2) the exclusion of those materials (or parts thereof) that are unauthentic.
3) the extraction from the authentic material of testimony that is credible.
4) the organization of that reliable testimony into a meaningful narrative or exposition.

Ethnohistorians use this method along with the traditional methods, research problems and theories of anthropology. As a scientific discipline, anthropology includes three major components: theory, method, and data. "Data" are the facts, the objects or categories which a particular science values; "method" refers to the multiple techniques used by a discipline to recognize and obtain the relevant facts or data: and "theory" refers to the framework or model used to order the data and in many cases predict behavior.

Considering these three components, Ethnohistory has in common with traditional anthropology "theory" and "data" but its "method" is borrowed from history. Ethnohistory has not developed a distinct set of theoretical models of its own but has utilized those of general anthropology. Doing ethnohistory involves a set of techniques for gathering, organizing, and analyzing documented traditions. The aims of those who employ these methods are those of cultural anthropology in general, and have to do with constructing theories of culture. Therefore, ethnohistory in itself cannot be considered an independent discipline (Fenton 1962, Leacock 1961 and Washburn 1961), and could be considered a research strategy or methodology (Carmack 1972:234).

This volume focuses upon the techniques for gathering, organizing, and analyzing documentary sources. While the typical ethnohistory is constructed by employing many different methods, each complementing the other, most of the chapters in this volume each deal specifically with one data source for purposes of exposition. The student should realize that no one data source or methodology is the best in all cases. The relative merits of each method should be carefully considered in terms of the research problem, accessibility of the data, reliability of the method and the time available for proper analysis. Because of the rich variety of documentary sources that ethnohistory draws upon, it is eclectic in both its subject and its methods.

This variety becomes apparent in the first chapter in which Patrick Garrow discusses the use of public documents as a primary source. Garrow utilizes public records of the eighteenth and early nineteenth century, such as deeds and apprentice bonds to develop a social history of the Mattamuskeet Indians of North Carolina. Before Garrow's study their social history was largely undocumented and their contemporary descendants had no group identity. This fine example of the use of ethnohistorical sources details the techniques used to determine styles of leadership, settlement patterns, and population data from public documents. Most of all, Garrow reveals how it is possible to extract particular social data from public documents that were not designed to reflect those types of data. He also illustrates how public documents, which are readily available in county, state, national and local repositories, contain a wealth of heretofore unexamined information offering a primary source for ethnohistorical research.

Missionaries are often the first to document a population's customs, social organization, beliefs and artifacts. The documents they produce are important ethnohistorical sources because, like the anthropologist, missionaries often learn the language, eat the foods, and establish personal relationships with their informants. Darrel Whiteman provides a full discussion of the diverse uses and functions of missionary documents. Most important though, is his insightful presentation of the problems of bias in missionary documents and his recommendation that the researcher should "understand the wholeness of the document, the context out of which it was created and the configurational whole of which it is a part." Since this should be the approach of all ethnohistorians, regardless of the documentary source, this chapter should be read by every reader of this volume.

Census surveys have long been a source of quantitative and statistical data for researchers in the social sciences. However, these rich documentary data are infrequently utilized for detailed anthropological analyses of past social and cultural behaviors. The chapter by Mary Moran, uses 1880 United States census reports to describe a methodology for analyzing historical statistics to solve anthropological problems. The chapter probes the problems of using this data source: accessibility, errors and falsifications, biases of the interviewer and deficiencies in reporting. Moran's discussion shows how the anthropological method of participant observation, and the anthropological interest in kinship patterns, can be well served by the use of census reports. Her analysis offers a valuable description of the structure of the household of Blacks in the rural South sixteen years after emancipation. Her analysis reveals that these Southern Blacks did not reside in matrifocal extended families as earlier writers claimed, but in a family pattern consistent with American cognatic descent. With this example she shows how a student can use census records for testing assumptions about kinship, household composition, settlement patterns, economic cooperation, and the relationships between generations.

Following Moran's example of the use of census material to test anthropological problems, Cary Meister presents methods for evaluating the accuracy of census reports in testing hypotheses or in making generalizations. His evaluation of census reports from the Pima and Maricopa Native Americans of Arizona shows how a researcher can test for the probability of chance occurrence in a sex ratio and in cohort survival analysis in order to assess the reliability and validity of census records. For ethnohistoric purposes, the methods described here can detect age misstatements and underenumerations which can bias a study, but which, if known, can be used to adjust the data to better reflect the population.

The next chapter examines the general characteristics of maps and the techniques appropriate to their analysis. Barry Higman demonstrates how maps of West Indian plantations, mostly in Jamaica in the eighteenth and nineteenth centuries, provide valuable information regarding the spatial organization of settlements and regional cultural patterns. The general principles of analysis outlined by Higman are equally applicable to maps of other types of landholdings, regardless of time period, size, economic organization, and nucleation or dispersion of settlement.

Anthropologists have generally accepted the use of photography as a research method since the time of Margaret Mead's pioneering work with this technology. Early photographers--travelers, natural scientists and anthropologists--have left a storehouse of photographic data. These visual documents are now beginning to be recognized as valuable sources of ethnohistorical information. The chapters by Margaret Blackman, entitled "Visual Ethnohistory: Photographs In the Study of Culture History" and by Arnold Pilling entitled "Dating Photographs" provide enormous detail on the use of this data source. Blackman offers a general guide to the use of photographs as ethnohistoric documents, giving examples from her analysis of historic photographs of the Northwest Coast Indians. She describes ways to locate historic photographs of native peoples and cultures, how to document the photos, and how to derive cultural data from the photographic representations.

Arnold Pilling meticulously discusses how to date photographs. The technical detail he provides regarding labeling, changes in technology or motif, thickness, mounts, colors, borders, and images of material culture is sure to be a valuable contribution to a researcher concerned with accurate historical sources. His discussion of the evolving photographic technology from the daguerrotype of the 1830's, to stereotypes and picture post cards, to the color photography of today is in itself an ethnohistorical study of American culture change. With the details in this chapter many researchers will be able to accurately identify and date photographs which previously were considered unusable for historical reconstructions.

The technology of remote sensing is a relatively new documentary source which combines the spatial qualities of a map and the details of a photograph. Remote sensing includes both photographic and non-photographic forms. The role of remote sensing in ethnohistorical research is considered in the chapter by Lawrence Kruckman who introduces the reader to this technology, details ways to gain access to it and ways to use it in cultural and environmental research. His discussion of infrared photography and satellite imagery in social science research anticipates major developments in this rapidly evolving technology.

Oral history is a data source and a methodology used by the earliest recorders of the human condition. Even so, the beginning researcher rarely has a clear understanding of the techniques needed to produce quality ethnohistorical data. The chapter on oral history by Margaret Wilson analyzes the steps involved in establishing interviewer-interviewee relationships and reviews the important issues of making initial contact with an informant, recording and transcribing the interview material, and obtaining legal release of information. The pros and cons of using tape recorders and other interviewing techniques of oral history are all considered in this chapter.

Bryan Page continues the discussion of the documentary uses of recorded reminiscences and oral tradition in the study of ethnohistory. He provides a thorough understanding of the usefulness and reliability of oral history. Page's survey of the major oral history collections in the United States is of importance, because not only does he list their holdings, but he also indicates their cataloguing systems and accessibility. In addition to his discussion of consent forms and of oral history retrieval systems, this chapter will familiarize a researcher with how this data can be used for much more than anecdotal statements.

Items of material culture contain enormous historical potential. Although, such items are not often considered to be an historical data source, Barrie Reynolds presents a convincing argument that artifactual documents contained in ethnological museum collections are a vital resource for ethnohistorians. Reynolds illustrates how the researcher can document items of material culture and how he can place them in a cultural context, thus adding to the culture historical analysis.

The previous chapters detail the reliability and validity of specific data sources. William Stein's chapter, however, convincingly illustrates the power of newspapers with an ethnohistoric example. His reconstruction of an Andean Peasant movement of 1885 demonstrates the utility of this documentary source in the absence of other sources of data. Thus, he reveals how ethnohistory can add to the anthropological understanding of sociocultural processes in the absence of the traditional sources of oral history and ethnography.

The chapter by Joseph D. Castle is an in-depth view of what one collection of records can provide to the ethnohistorian. This insider's look at a collection of Colonial Louisiana records is just an example of the available archives throughout the world. When reading Castle's comments and descriptions of the eras and of the ethnic groups represented, keep in mind that this collection is typical of the kinds of underused archives available to the ethnohistorian. Not only does this chapter inform the reader of the kinds of materials that are available, but it may also stimulate the beginning researcher to investigate the storehouses of unexplored archival records.

The final chapter by Charles Cheek and Nancie Gonzalez differs from the previous chapters in that it utilizes several data sources: historical documents, ethnographic, and archeological data. This chapter serves as an example of how contemporary hypothesis testing anthropologists use historical documents to complement other methods, to cross validate the data, and to obtain data which the other methods can not provide. Furthermore, this chapter illustrates the interdependency of the research methods now in use by anthropologists, and how the wholistic ethnographic, ethnohistoric, and archeological approach can be used successfully to reconstruct a specific culture and at the same time address theoretical issues in anthropology.

The use of documentary data to solve research problems in social science is, and will continue to be, a major source of information regarding the similarities and differences between human groups. When documentary data is used with traditional ethnographic data new realms of understanding are reached. Together, these types of data offer the possibility of answering questions that heretofore have been unanswerable.

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PUBLIC DOCUMENTS AS PRIMARY SOURCES FOR ETHNOHISTORICAL RESEARCH: THE MATTAMUSKEET MODEL

PATRICK H. GARROW
Earth Systems Division

INTRODUCTION

The initial research for this paper began as an attempt to determine the potential for developing significant new data on Indians in the historic period in North Carolina. It serves as a good example of how an ethnohistorian can use public documents to reconstruct the historical past of a people who have lost their identity and oral traditions. The Indians of Mattamuskeet were chosen as a starting point because that group had owned a large tract of land in the form of a reservation at a time when record keeping in North Carolina had become systematic. This author believed that the ownership of the tract of land by the Mattamuskeets gave the group a commodity that was desirable to the Colonial settlers. Also, it was a commodity that was likely to have left traces in the county records in the form of deeds of sale. Other coastal North Carolina groups could have been chosen for the same reasons, but less was available in print on the Mattamuskeets, and that group seemed to offer the best test for the feasibility of a large-scale research project.

The Indians of Mattamuskeet proved to be an excellent choice. The public records of Hyde County, North Carolina, which contain most of the unpublished documents concerning the group, are well organized and nearly intact. Thirty-two deeds and grants were eventually found that related directly to the Indians of Mattamuskeet. These documents provided the surnames present in the group during the Reservation Period, as well as insights into the leadership patterns, settlement patterns, and population. The deeds and grants also provided excellent data on kinship and social change through time. These documents led to the discovery of other unpublished records concerning the group. The additional documents included an early will and later apprentice bonds. Data from all documents made it possible to use the available Federal Census information. These data made possible the identification of at least some of the contemporary descendants of the Indians of Mattamuskeet. This in turn led to the utilization of marriage records from the second half of the nineteenth century to the present time in order to develop an understanding of the kinship patterns present. The end product of the research was the identification of contemporary descendants of the Mattamuskeet Indians who were not reflected by any contemporary account or record.

A number of problems had to be overcome during the research on the Mattamuskeet before the project could proceed smoothly. The initial problem encountered was that it was extremely difficult to read the documents (particularly those from the eighteenth century) because of both the handwriting and the use of archaic terminology. The terminology was eventually mastered, but as the records were written by many different scribes, the handwriting remained a problem throughout the project. Eventually a system was devised in which once pertinent documents were identified, photostat copies were made and word-by-word transcriptions were prepared and typed. Less expensive photocopying could not be used because of the potential damage to the documents and the loss of clarity of the handwriting in photocopying. This approach proved to be both time-consuming and expensive, but was undoubtedly more accurate than attempts to directly transcribe documents by hand from the deed books. Also, the photostats provided an excellent permanent record of the documents for future reference.

The second problem encountered stemmed from the sheer quantity of the county records that required researching. The 'Hyde County deeds were indexed, and relatively little time was required to locate all of the pertinent deeds once the Mattamuskeet surnames were identified. The other county records were not indexed, and the author had to scan the records page by page to ensure no documents were missed. This is probably an inefficient means of proceeding, but it was the only way the author could ensure consistent data recovery.

The third problem that had to be overcome stemmed from the fact that Hyde County had been incorporated into different districts through time, and some of the records germane to the county were scattered. This was overcome by checking the records of adjacent counties, but it is virtually certain that at least some documents were missed due to time constraints.

The last major problem encountered with the documents was discovered during the last phases of the research. Most of the research effort was expended on the Hyde County archival holdings housed at the state repository at Raleigh. Every indication available was that the Raleigh archives contained either copies or the originals of every document housed at the county archives at Swan Quarter (the Hyde County seat). A trip to Hyde County soon revealed that was not the case. Significant new documents were found at the county seat, and it was only through the thoughtful efforts of a local historian that all of the documents were identified during the week available for that phase of the research. In short, the research was extremely time-consuming and intensive.

The Mattamuskeet research was based on two major hypotheses that can be tested by future projects. The first hypothesis states that it is possible to reverse the normal methodology used in ethnohistorical research. Under this approach, if a researcher began a project on a group such as the contemporary Catawba, he would try to achieve an idea of what it presently means to be a Catawba, and would then try to determine how that contemporary view was achieved through researching the history of the group. The Mattamuskeet project was an attempt to begin with a historical group, and trace that group to contemporary descendants who have no group identity. This was achieved through careful study of the records of a single county through time working from the oldest to the most recent. This hypothesis was adequately tested and confirmed in the case of the Mattamuskeet Indians, but not in terms of the larger-scale applicability of the methodology. There simply are not sufficient data in the ethnohistorical literature to use for a comparative study necessary to validate the methodology.

The second major working hypothesis developed during the Mattamuskeet research is that it is possible to extract particular social data from documents that were not designed to reflect that type of information. Specifically, it was assumed that the deeds and grants from the Reservation Period reflected leadership and settlement patterns as well as providing population and kinship data. Also, it was assumed that kinship and social change data could be extracted from the available apprentice bonds and census information. The second hypothesis was not completely confirmed by the Mattamuskeet project because, in lieu of supporting archaeological data, there is no way at this time to test the conclusions drawn from the documents. The data extracted are logically consistent, but remain unproven until a second means of confirmation becomes available.

THE MATTAMUSKEET MODEL

The history of the Mattamuskeet Indians prior to the formation of their reservation in 1715 remains unclear. The area that later included the Mattamuskeet reservation was occupied by members of the Secotan tribe (Mook 1944) or chiefdom (Haag 1958:130) at the time of the attempted settlements on Roanoke Island from 1585-1590. Eight villages of the Secotan chiefdom were plotted on John White's 1585 map (Cummings 1966:Plate I). Half of these villages were located in the Pamlico River area to the south of the Mattamuskeet Reservation. These villages included "Secotan," where the leader of the chiefdom resided. The remaining Secotan villages were scattered over the Secotan territory. The village of Pomeioc was apparently located within the area to be later incorporated into the Mattamuskeet reservation.

Virtually nothing is known concerning the Indians of that area until they were visited by John Lawson in 1709. A group called the Machapunga, sometimes referred to as the Mattamuskeet or Maramiskeet, resided in Hyde and adjacent Beaufort County at that time and had 30 warriors (Mook 1944:221-224).

The Machapunga or Mattamuskeet were among a number of small coastal Algonkian tribes that participated in the Tuscarora War on the side of the lower Tuscarora. The war, which lasted from 1711-1715, ended in defeat for the Indians (Lee 1968; Johnson 1968), and a reservation was established near Lake Mattamuskeet for the shattered remnants of the coastal tribes.

The Reservation Period

Settlement pressure by whites was the greatest problem that the Indians at Mattamuskeet faced after the Tuscarora War. King Squires and King Mackey of Mattamuskeet requested that their lands be surveyed and conveyed as a formal grant to the group in 1724. The Colonial Council concurred with this request, and ordered the Surveyor General to survey a four square mile area for the reservation (Johnson 1972:212). The land grant was not formally approved by the Council until April 1, 1727, and it is apparent from the wording of the grant that the reservation had not been surveyed as ordered by the Council (Garrow 1975: Appendices 3 and 4).

The original grant document for the reservation has survived, and according to this document (Garrow 1975: Appendix 4), the reservation began, ". . . at the Mouth of Old Mattamuskeet creek, running up that creek and the Northern most branch of it to the head thereof, thence to the Lake SoWs (gap) pole, then along the Lake Southerly to Matchapungo Bluff Woods, then NoEs to Pamlicoe sound, from thence along Pamlicoe sound to the first Station. . . ." Careful study of subsequent deeds and historical maps on file with the North Carolina Archives indicates that the reservation ran from modern Englehard on the north, to below Wyesocking Bay on the south. The reservation included the land from Pamlico Sound to Lake Mattamuskeet between those two points. If this reconstruction is correct, the reservation measured approximately five by nine miles, well over twice the 10,240 acres mentioned in the original grant. This error is hardly surprising considering the roughness of the terrain, the isolation of the area, and the lack of an actual survey.

The 1727 grant indicates that King Squires alone was the chief of the Indians at Mattamuskeet. The reservation was given to the Indians in exchange for two buckskins and an annual quitrent of one shilling per 100 acres. The Colonial Council granted all rights to the land with the exception of half the value of all gold and silver mines that might be discovered (Garrow 1975: Appendix 4).

The Indians at Mattamuskeet had begun selling land even before the receipt of the formal grant from the Council. The Beaufort County Records contain a notation concerning a land sale as early as 1717 between the chief of the Mattamuskeets and a white settler named Richard Jasper (Garrow 1975: Appendix 2). Land sales began in earnest in 1731. Twenty-nine deeds were entered on reservation lands in the Hyde County Records between that time and June 8, 1761. It is probable that a number of additional deeds were drawn up and land sales completed during that period, since several deeds were entered in neighboring Currituck County. The Currituck County Records have not survived intact, and the surviving records were not thoroughly checked during this research.

The population on the Mattamuskeet reservation was apparently never very large. The main groups that made up the reservation in 1715 were the Coree and Machapunga--groups that had long been enemies (Johnson 1972:193-194). There is no evidence that the Coree group remained at Mattamuskeet for any length of time, and it is probably safe to assume that the Coree rejoined their traditional allies, the Tuscarora, at the earliest opportunity. The documents do not indicate the size of the group prior to 1731, but Governor Burrington indicated that 20 families resided on the reservation in that year (Johnson 1972:212). The Colonial records state that only eight or ten people lived on the reservation in 1755 (Johnson 1972:212); and the 1761 deed (Garrow 1975: Appendix 33), which terminated the reservation, contained the signatures of only six adult males.

Squires, Mackey, Long Tom, and Russell are the only surnames that appear on the Mattamuskeet land deeds. It is likely that the single individual with the Russell surname was actually a Mackey. The Squires family was presumably the largest one on the reservation. Five different individuals with the surname Squires were represented on deeds from 1731 to 1761. Two individuals with the Long Tom surname signed deeds during this period. The Mackey surname was represented by at least one, and in all probability three individuals. There is some confusion concerning one of the individuals, as he was called "Joseph Russell Mackey" on a deed dated 1748/49, and Joseph Russell on deeds dated 1746, 1747, and 1761 (Garrow 1975: Appendices 14, 16, 27, and 33). The Squires, Mackey and Long Tom surnames were not represented among the early white settlers in Hyde County.

Leadership on the reservation from at least 1718 to 1746 was provided by John Squires. He is described in the documents as being the "chief" or "king" of the group. He was apparently assisted in this role by at least two advisers. A 1731 deed (Garrow 1975: Appendix 5) implies that John Mackey and Long Tom acted as his advisers, but none of the deeds indicate that this was a formal arrangement. The deeds convey the impression that the reservation was largely held together by the leadership of John Squires during his lifetime, but offer few insights into his nature. The Beaufort County Records contain a will prepared by John Squires and entered into the records in 1723. The will reads as if it were written by a missionary and is not very specific. The will left his entire worldly estate to his wife, Mary Squires (Garrow 1975: Appendix 1). John Squires took a direct role in all of the recorded land sales on the reservation until his death in late spring or summer 1746. The date of his death is deduced from the fact that he was indirectly involved in a land sale concluded on April 22 of that year, but was not mentioned in a land sale concluded on August 20, 1746 (Garrow 1975: Appendices 12 and 13). Subsequent references to John Squires in deeds indicate that he was deceased.

Charles Squires, son of John Squires, was described as "King of the Arromoskeet Indians" on a deed dated February 24, 1747/48 (Garrow 1975: Appendix 15). His title was listed as "Proprietor of Arromuskeet" in a 1749 deed (Garrow 1975: Appendix 18). Charles Squires apparently remained the leader of the group until 1752, when he attempted two deeds of sale and a lease for the entire reservation (Garrow 1975: Appendices 21-23). The deeds do not reflect a clear-cut leader on the reservation between 1752 and 1760. A deed drawn on September 15, 1760 (Garrow 1975: Appendix 30), indicated that George Squires, brother of Charles Squires and son of John Squires, shared that title with James (Long) Tom. This is the only deed after 1752 which provides insights into the leadership of the group. The impression conveyed by the documents is that the group lacked cohesion and meaningful leadership during the latter stages of the Reservation Period. The entire reservation was sold in 1761 (Garrow 1975: Appendix 33) to three white settlers. The deed was apparently signed by all of the heads of household on the reservation at that time. Six individuals, all male, signed that deed.

The leadership pattern suggested by the deeds gives only superficial insights into the powers of the leader of the Mattamuskeets during the Reservation Period. The leader at that time apparently did not have the power or support accorded chiefs in earlier times. The chief no longer resided in a village that was the center of religious and political activity. Also, there is no evidence that the members of the group provided the chief with his means of subsistence, or that the position was inherited through the mother as Haag (1958:17) and others have implied.

The major role of the chief of the Mattamuskeet appears to have been to act as a representative from the group to the white authorities. John Squires represented the interests of the group in land sales during his lifetime, and probably acted as an arbitrator of disputes within the group. Charles Squires appears to have alienated his own people with his attempted land dealings. The two 1752 attempted sales of the reservation were not signed by all of the individuals listed on the deed. Although these were the only deeds of sale made from 1731 to 1761 that were entered in the Land Grants Office, it is obvious that the sales were rejected by the Mattamuskeets. The rejection of the deeds of sale and lease was a rejection of Charles Squires' position of leadership. The events which followed indicated that the group was neither large nor cohesive enough to cope with that crisis.

The settlement pattern depicted by the Mattamuskeet deeds was one of dispersed homesteads located primarily along the major creeks on the reservation. The home of John Squires was located at the mouth of New Mattamuskeet

Creek (Middle Creek, currently called Middletown Creek). His "plantation" was a tract of 150 acres which ran for 291.5 yards at the mouth of the creek, and south for a mile along the high ground facing the marsh at the edge of Pamlico Sound. This homestead was the most centrally located tract on the reservation in terms of water travel. John Squires sold his "plantation" to Francis Credle, a white settler, in 1742 for 100 North Carolina money (Garrow 1975: Appendix 11). Long Tom's homestead was seemingly located west of John Squires' home and on the shore of Lake Mattamuskeet. His homestead was called "Long Tom's rice patch," and consisted of 65 acres. Long Tom sold his homestead to Casson Brinson, a white settler, in 1746 for 6 Virginia currency (Garrow 1975: Appendix 12). John Mackey, Joseph Russell Mackey, and George Squires had their homesteads along Wiasocken Creek. A deed drawn in 1748 indicates that John Mackey and George Squires probably lived on adjoining tracts (Garrow 1975: Appendix 17). Joseph Russell Mackey's homestead was evidently located on a 100 acre tract that he purchased from John Mackey in 1748/49 (Garrow 1975: Appendix 16). That tract was across Wiasocken Creek from John Mackey's home. It is not possible to pinpoint the homesteads of the remaining Mattamuskeets, but the distribution of those tracts probably reflects the pattern outlined above.

Haag (1958:16), in his discussion of the settlement pattern of the Algonkian groups in the general area, pointed out that ethnographic accounts described a pattern of dispersed homesteads located around central villages. The villages were small, and were inhabited by members of the leadership structure. Individuals who were not members of the leadership structure lived on homesteads placed in areas that could sustain the form of agriculture practiced. Haag performed an extensive archaeological survey of the North Carolina coastal area and his survey confirmed the village/homestead pattern.

Within the perspective of the early ethnographic accounts and the validation of those accounts by Haag, the Mattamuskeet settlement pattern assumes new meaning. John Squires' homestead replaced the central village of earlier times. The group size was simply too small for the central village to have survived. The remainder of the group lived dispersed throughout the reservation on tracts that were suited for their form of subsistence. The Mattamuskeet settlement pattern was a variation of the earlier pattern, and was the product of restricted group size and constricted territory.

The subsistence pattern of the Mattamuskeets during the Reservation Period could not be adequately reconstructed from the available data. The individual "plantations" mentioned in the deeds allow the inference that agriculture was being practiced on some scale. The term "Long Tom's rice patch" used in the April 22, 1746 deed (Garrow 1975: Appendix 12) implies that crop was grown, but that could not be determined with certainty. Several deeds use terms like "houses Orchards & Gardens fences" when referring to what might be improvements on those tracts, but that may have been a legal convention rather than an attempt to describe what was present. Charles Squires did retain the hunting rights on the reservation for the Mattamuskeets in his attempted lease document in 1752 (Garrow 1975: Appendix 22). This may indicate that hunting was still an important pursuit on the reservation, but equally it may reflect Charles Squires' major subsistence pursuit or other factors.

A full description of the subsistence pattern of the Mattamuskeet during the Reservation Period must await the results of future archaeological research. This is also true of data concerning the degree of acculturation of the group, and specifics of the material culture. It is unfortunate that no Mattamuskeet estate inventories were found in the Hyde County Records, but these questions can, and hopefully will, be answered by future archaeological research.

The final sale of the reservation in 1761 was the product of several factors. Population decline played a major role, as did the lack of adequate leadership. The population of the reservation had never been very large. Governor Burrington indicated that 20 families lived there in 1731 (Johnson 1972:212), but that number had apparently fallen to six families in 1761. Also, the individuals who made up the original leadership of the group had died before the final land sale. As previously mentioned, John Squires died in 1746. Long Tom, who had acted as one of the two advisers to John Squires, did not appear on any deed after 1746, and probably died around that time. John

Mackey, who may have been the son of the John Mackey mentioned in the 1724 request to the Colonial Council for a formal survey of the Mattamuskeet lands (Johnson 1972:212), did not appear on land deeds after 1755. John Mackey had served as the other adviser to John Squires, and had assumed a rather important role in land transactions after Squires' death. The death of John Mackey appears to have removed the last obstacle to the sale of the reservation, since he was the last of the old leadership remaining on the reservation.

There is some indication from the deeds that the Squires family began to break up after the death of John Squires. George Squires, son of John Squires, was listed as living in Tyrell County on deeds dated 1755 and 1756 (Garrow 1975: Appendices 24 and 28). George Squires returned to Hyde County in 1760, but the deeds leave the impression that he returned mainly to dispose of land. The Squires family evidently left the Mattamuskeet area completely after the sale of the reservation, and were not mentioned in any type of Hyde County document after that time.

The entire reservation was sold to Thomas Jones, William Cummings, and Bartholomew Coin in 1761 for 100 t Sterling (Garrow 1975: Appendix 33). The deed transferred the reservation basically as described in the 1727 land grant, although a major portion of the land had been sold prior to 1761. Six individuals signed the 1761 deed. Those individuals were: Charles Squires, George Squires, Timothy Squires, James (Long) Tom, John Squires, and Joses Russell. Joses Russell appears to have been Joseph Russell Mackey. The Mackey surname still present in Hyde County was probably passed on through that individual.

Little has survived in the records concerning the Mattamuskeets from 1761 to 1792. Rev. Alexander Stewart visited the Mattamuskeets in 1761 and 1763, and left brief accounts of his visits. Stewart reported after his 1761 visit that the Mattamuskeets were residing with a few Roanoke and Hatteras Indians who had moved to their area. He noted the baptism of two men, three women, and two children during that visit. Stewart established a school at Mattamuskeet when he returned in 1763. He baptized six adults and 15 children at that time. Stewart remarked that the Indians at Mattamuskeet had mixed with whites, but did not indicate if the mixture was residential or racial (Johnson 1972:213).

The Post-Reservation Period, 1761-1792

The Mattamuskeets were, as previously indicated, joined by Indians from Roanoke and Hatteras by 1761. The names of these individuals were not identified in any of the extant deeds. This could mean that the Indians from those areas moved to Mattamuskeet at a period later than that covered by the available records. Individuals with Mattamuskeet surnames do not occur in the Hyde County Records from 1761 to 1792. In fact, there is reference to only a single Indian in the records during that time. That reference called for William Gibbs to show cause why an Indian woman named Cati Collins should not be set free (Garrow 1975: Appendix 35). It is not clear from the reference whether William Gibbs was holding Cati Collins as an apprentice or a slave. The outcome of the show cause order could not be determined due to a break in the County Court Minutes from 1765 to 1767. Cati Collins may have been a member of one of the groups that moved to the area from Roanoke Island and Hatteras. The reference to Cati Collins as an Indian is significant since the Collins family's later history closely paralleled that of the individuals with Mattamuskeet surnames. Also, the Collins descendants now living in Hyde County are thought to be at least partially of Indian descent.

The only other reference to Indians in Hyde County during this period that could be located during this research was a notation in a book by David Stick (1958:73). According to Stick, an Indian woman named Mary Elks sold the site of the Indian town of Hatteras to a white settler named Nathan Midyett in 1788. Individuals with the Elks surname are referenced in the Hyde County Records as "free persons of color" during the nineteenth century. The Elks surname has apparently disappeared from Hyde County.

The last reference to the Indians at Mattamuskeet as a group was on a deed of sale dated November 21, 1792 (Garrow 1975: Appendix 34). According to that document, a group of seven Mattamuskeets sold the entire original reservation to a white resident named Hutchens Selby for 50 . It is quite obvious that the group sold land that they did not own, but the deed was accepted by the Hyde County Court, and was entered in the Hyde County Record of Deeds by the Registrar on April 9, 1793. The description of the tract was essentially the same as given on the original 1727 grant, and the original grant was referenced in the 1792 deed. There is no subsequent mention of this deed in the Hyde County Records, and it is evident Hutchens Selby did not pursue his claim.

The 1792 deed was signed by five females and two males. The position of the signatures of the two males on the deed and subsequent documentation indicates that the two were children. One of the female signers also appears to have been a child. The four adults who signed the deed were: Patience McKey (Mackey), Mary Longtom, Jean Longtom, and Marthey Longtom. The children were Tabithy and Timothy McKey (Mackey) and John Longtom.

The absence of adult males on the 1792 deed is difficult to explain. It is possible that adult male heads of family were present and simply did not take part in the sale, but that does not appear to be very likely. It is more likely that the households were headed by females, and that the male-oriented nuclear family arrangement inferred in the earlier deeds had simply broken down. That impression is confirmed to a degree by supportive documents for apprentice bonds drawn up in 1804 (Garrow 1975: Appendix 36). A possible explanation for this situation is that the 1792 group reflected the end product of movement away from Hyde County by the Mattamuskeet descendants. The males in the group would have been more mobile than the female group members, since it would have been somewhat easier for them to have made a living in the larger society of the day. Under this interpretation, at least some of the females in the group were simply left behind in this out-migration. Whatever the reason, the 1792 deed pictures a group in the final stages of disintegration. The Mattamuskeet descendants at least still retained an awareness of their heritage in 1792. Even that would disappear in the century that followed.

The Mattamuskeet Descendants in the Nineteenth Century

The descendants of the Mattamuskeets lost virtually all of their Indian identity during the nineteenth century. The available archival material offers a rather clear explanation for that loss of identity, and perhaps the events evident from the documents also explain a similar loss of identity by other groups during the same period. Two primary factors for the identity loss emerge from a study of the documents. The initial factor was the disintegration of the nuclear family among the descendants. The second factor was a product of the unstable times preceding the Civil War in North Carolina. That was the apprenticeship practice that sprang up in Hyde County from 1834-1865. The apprenticeship practice may have been an attempt by the white planters to neutralize the free nonwhite population.

As previously noted, the last major document concerning the Mattamuskeets in the eighteenth century presented a rather uncertain future for the group. Supportive documents for apprentice requests entered in the Hyde County Records in 1804 (Garrow 1975: Appendix 36) offer additional evidence of the social situation at that time. Those documents were submitted by Captains Stephen Fletcher and Little John Pugh in an attempt to convince the court that the apprenticeships they proposed were in the public interest. Captain Fletcher proposed taking Joshua Longtom as an apprentice, and pointed out that Joshua Longtom was the illegitimate son of Jenny Longtom and an unknown white father. He stated that Joshua Longtom, aged ten, was "going at random with out that control and nutrition So Essential to his own future good and that of the Community at large. . . ." The supportive document further stated that Jenny Longtom was an Indian. It is presumed that she was the Jean Longtom mentioned in the 1792 deed. The second supportive document, entered by Little John Pugh, proposed the indenture of Jordan Longtom, aged nine. According to this document, Jordan and his brother, Price Longtom, were the illegitimate sons of an Indian woman named Mary (also called Polly) Longtom and an unnamed black father. Mary Longtom was listed on the 1792 deed, and the wording of the supportive document indicates that she may have also been an apprentice in her youth. The supportive document declared that the father of the two boys did not consent to care for them and desired that they be apprenticed. Joshua and Jordan Longtom were apprenticed to the respective masters in 1804, to be taught the trades of blacksmith and seaman. The records do not indicate whether or not Price Longtom was also apprenticed. Two other Mattamuskeets, Shadrach and Simpson Mackey, were bound to masters in the same year. Both were described as being illegitimate (Garrow 1975: Appendices 36-37). John Longtom apparently completed his apprenticeship in 1804, and this is reflected in the records by a show cause order issued to Little John Pugh in that year (Garrow 1975: Appendix 37). If the inference is correct, John Longtom reached his twenty-first birthday in 1804, which would have made him nine years old when the 1792 deed was signed.

The 1804 apprentice bonds and supportive documents confirmed the impressions created by the 1792 deed. It is quite obvious that the family groups recorded in the documents were female centered and unstable. The available documents indicate that the nuclear family had completely broken down by 1804, and that at least some of the Mattamuskeets could not even provide minimal care for their children. Surnames during this period were passed on from the mother, and a considerable amount of miscegenation apparently took place. The Mattamuskeets, or those with Mattamuskeet surnames, were not mentioned in the Hyde County Records for 32 years following the 1804 apprentice bonds. Individuals with Mattamuskeet surnames were occasionally mentioned in the Federal Census Records of the intervening years, but the census records lack continuity and probably did not represent an accurate tabulation of the Mattamuskeets on a decade to decade basis. None of the records after 1804 referred to individuals with Mattamuskeet surnames as Indians, but instead included them in the category "free persons of color." The Mattamuskeet descendants thus became part of a group that enjoyed a social status only slightly higher than slaves. Furthermore, the extant records of the nineteenth century indicate that the Mattamuskeet descendants may have enjoyed low relative status within the "free persons of color" group.

The "free persons of color" in Hyde County were largely ignored in official county records until the last 30 years before the Civil War. They did not own land, and, for the first time in the history of Hyde County, blacks and Indians were no longer being apprenticed because of their race or social status. The only apprentice bonds that appeared in the Hyde County records from 1804 to 1834 dealt with the apprenticeship of orphans. That situation changed drastically in the 1830s. The last 30 years before the Civil War were marked by social upheavals created by a series of slave uprisings in the southern states, and the growth of the abolitionist movement in both the North and the South. The famous Nat Turner Rebellion took place in southern Virginia in 1831. A much less serious "slave uprising" took place in Hyde County in the same year (Garrow 1975: Appendix 38). The Hyde County "slave uprising" took the form of a slave assaulting a white man. This event seems to have been the act of a single slave. The situation was made more serious by the later reports of an outside agitator in the form of one Rev. Thompson, who visited Hyde County in 1834 and supposedly encouraged slaves to rebel against their masters. These were rather trivial events, but in the context of their times were fully sufficient to arouse the fear and indignation of the Hyde County slaveholders. Furthermore, the North Carolina General Assembly had stripped the "free persons of color" of most of their rights by 1835 (Dial and Eliades 1975:39-41). The events that took place in Hyde County from 1834 to the Civil War must then be considered as products of their time and were in no measure unique to that county.

The "free persons of color" were apparently viewed as potential allies to the slaves in Hyde County during this period. Also, it had apparently become more difficult to acquire new slaves. The Hyde County Records do not contain a formal statement for the rationale of what happened, but the records contain ample evidence that the children of "free persons of color" were apprenticed en masse from 1834 to 1865. A total of 113 "free persons of color" were apprenticed in Hyde County during that time. This represented a significant proportion of the potentially available children of this category. The 1850 Federal Census indicates there was a total of 256 "free persons of color" in the county in that year. The 1860 Federal Census listed 227 "free persons of color." Most of the apprenticeships were drawn up from the mid-1840s to the mid-1850s (Garrow 1975: Figure 3). It is probable that well over half of the children of the "free persons of color" became apprentices during this period. The age of the child at the time of the initial apprenticeship was given on 73 of the apprentice bonds, and the average age was below seven years old. The children remained apprentices until their twenty-first birthday. Most of the males were bound as farmers. The females were bound as seamstresses or house servants. Few of these children were taught specialized trades, and no provisions were made by their masters to teach them to read and write. The apprenticeship system, as implemented for the "free persons of color," offered the participants little in exchange for their labor.

Children with surnames attributable to the Mattamuskeet were well represented among the apprentice bonds of this period. Twelve persons with the surname of Longtom, and twelve with the Mackey surname were apprenticed (Garrow 1975: Appendices 40-41). Other families of probable Indian descent are also represented in the records. The Collins family was represented by apprentice bonds on ten different individuals. One member of the Elks family was apprenticed.

The results of the apprenticeship practice were simple and direct. The Longtom family rapidly declined in number, and according to the 1870 Federal Census had totally disappeared from Hyde County by that year. The Mackey family became dispersed over a wide area of the county. By 1870 the Federal Census indicates that there were Mackeys living in Currituck Township in southwest Hyde County, as well as Fairfield Township on the western side of Lake Mattamuskeet (Garrow 1975: Appendix 44). A more insidious result of the apprenticeship practice was the loss of Indian identity. Since many of the children of the Mattamuskeet descendants had been removed from their homes and families at a young age and placed under the care of whites, there was little opportunity for the older generation to pass on whatever elements remained of their Indian heritage. There was little to distinguish the former "free persons of color" and the newly emancipated blacks in Hyde County after the Civil War. Although a few of the former "free persons of color" of Hyde County had received specialized training for skilled professions, most had not been taught professions that placed them in a position to compete successfully with the former slaves. Former slaves had been trained as farmers practically from birth. Their former masters were more likely to utilize them as tenant farmers because of that training and possibly because of a paternalistic interest in their welfare. The former "free persons of color" were thus placed in a disadvantageous position. They were, as a group, both illiterate and without property.

The Contemporary Mattamuskeet Descendants

One family of Mackeys has retained knowledge of their partial Indian descent, although prior to this study they had no awareness of the group identity of their Indian ancestors. The contemporary spokesman for this group is Napoleon "Poley" Mackey who resides in Fairfield, North Carolina (located in Hyde County on the western side of Lake Mattamuskeet). Napoleon Mackey traced his Indian descent to Benjamin Mackey, who was supposedly a "pure-blooded" Indian. The Hyde County Records do offer data concerning Benjamin Mackey and his household in the nineteenth century. Benjamin Mackey was born, presumably in Hyde County, between 1825 and 1830 (Garrow 1975: Appendices 43-44). He married Mary Jane Barber of Hyde County in 1853 (Garrow 1975:42). Judging from data in the 1850 Federal Census, Mary Jane Barber was apparently the daughter of Bartie and Morena Barber, and was about 15 years old at the time of her marriage. Benjamin and Mary Jane Mackey had two sons and three daughters aged one to seven years by the time the 1860 Federal Census was taken, but the 1870 Federal Census listed only two daughters remaining in the household. Napoleon Mackey's grandmother was Clarissa Mackey, and his grandfather was Washington Hearse. Nothing could be determined from the Hyde County records concerning Washington Hearse. Napoleon Mackey's parents were Benjamin J. Mackey and Laura Lu Mackey. Laura Lu Mackey was the daughter of Henry Barber and Hettie Mackey, and Hettie Mackey was a member of a black family named Mackey, that moved to the county following the Civil War, who were apparently unrelated to the Mattamuskeet Mackeys. Napoleon Mackey married Geneva Burrus in 1921. His wife apparently has no claim to Indian ancestry. Napoleon Mackey, interviewed by the author in 1975, asserted his knowledge of Indian ancestry, and named several other Hyde County families he believed could also claim at least partial Indian descent. Prominent among those were the Collins, Barber, Chance, Clayton, and Bryant families.

It is significant that Benjamin Mackey passed on some knowledge of his Indian ancestry to his descendants. Benjamin Mackey was never apprenticed, and was apparently able to go through a type of enculturation denied to many of his relatives. Benjamin Mackey's work history apparently varied little from the other Indian descendants. He began his career as a laborer, and worked as a logger in the swamps around Fairfield, North Carolina. Later he became a tenant farmer, and worked land that belonged to a Mr. Cotter. He died around the turn of the century (Garrow 1975:43).

It may already be too late to gather much in the way of oral history from the Mattamuskeet descendants. The trend among those families since the Civil War towards increased mixture with black families, as well as the effects of the apprenticeship practice of the pre-Civil War period, have effectively destroyed all but a dim awareness of their "Indianess." It is unfortunate that Frank Speck (1916) did not visit Hyde County when he came to North Carolina in search of the Machapunga Indian descendants in 1916. His search took him instead to Roanoke Island in Dare County where he reported the existence of four families who claimed Indian descent. The surnames mentioned by Speck were Pugh, Daniels, Berry, and Wescott. Speck claimed that the individuals he met traced their ancestry to Israel Pierce, who had lived near the Pungo River west of Lake Mattamuskeet in Hyde County. Speck further remarked that no vestige of their Indian culture remained, and that they did not know to what tribe their ancestors had belonged. Speck did assert that those individuals were descendants of the Machapunga tribe, but offered no proof to substantiate his claim (Speck 1916:272).

CONCLUSIONS

The history of the Mattamuskeet and their descendants may be typical of small fragmented multiracial groups in other areas of the eastern United States. The Mattamuskeets lost the land very early. The key to that loss was evidently a combination of small group size and lack of adequate leadership. These factors were probably compounded by pressure from white settlers, and the ready market for land that those settlers provided.

The Mattamuskeets and their descendants were not represented in the Hyde County Records during the period in which they owned little or nothing of value that was desirable to the whites. The Indians of Hyde County never held public office and were not even represented on the tax lists. Therefore, little was preserved in the records concerning the Indians from the time they sold their reservation in 1761 until they sold it again in 1792.

The practice of mass apprenticeships of the children of "free persons of color" in Hyde County from 1834 to 1865 left behind a valuable body of data for interpretation, but undoubtedly destroyed what vestiges of Indian culture remained among the Mattamuskeet descendants. This effect culminated in the almost total lack of Indian identity evidenced by the contemporary Mattamuskeet descendants in Hyde County.

The major methodological hypothesis explored through the Mattamuskeet project has been confirmed for this example. It was obviously possible in the case of the Mattamuskeet to begin with a historically documented group, research county records, and eventually identify contemporary descendants where none were previously known. This author believes that studies following the Mattamuskeet Model can be conducted on other similar groups as well.

The second hypothesis, namely that it is possible to extract particular social data from documents that were not designed to reflect that data, could not be adequately tested through the Mattamuskeet project. Supportive data from archaeological studies will be required in this instance before the hypothesis can be confirmed. This portion of the Mattamuskeet Model can be tested during archival research on some of the larger and more well known Indian groups, however. As an example, Donna Spindel (1977) in her work entitled Introductory Guide to Indian-Related Records in the North Carolina State Archives, provides some insights into the wealth of unresearched public documents that exist on the North Carolina Cherokee. Those records span virtually every type of state and county record, and as yet have not been incorporated into any comprehensive study.

The vast quantity of public documents curated in county, state, and local repositories represent the day-today legal and economic transactions that comprise the historical bookkeeping of American society. Among these documents are literally thousands of records that can act as primary sources for ethnohistorical research.

NOTE

1. This paper is based on research conducted by the author from the fall of 1974 to the fall of 1975. A more extensive version of this paper was published by the Archaeology Section of the North Carolina Division of Archives and History under the title The Mattamuskeet Documents: A Study in Social History (Garrow 1975). The author wishes to acknowledge the aid of several individuals who assisted in the preparation of this paper. Dr. Amy Friedlander of the Soil Systems, Inc. staff read this paper and offered critical insights that materially strengthened this final draft. Mrs. Kim Savage proofed and edited the final draft and prepared the bibliography. Mrs. Angela Wallace expertly typed the draft and final versions of this paper.

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USING MISSIONARY DOCUMENTS IN ETHNOHISTORICAL RESEARCH

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INTRODUCTION

Editor Wiedman in the introductory essay of this volume has reminded us of the value of documents as a source for information as well as for theoretical formulation in the arena of acculturation, particularly as it relates to the interaction between western and non-western societies. It is in this area of research that I find the ethnohistorical method especially useful as a research tool for understanding non-literate societies at the point of contact, before they have undergone substantial culture change from interaction with members of other societies (cf. Keesing 1939, Stipe 1968, Welbourn 1971, Ubanowicz 1972, Tippett 1973, Beidelman 1974, 1982). In the past two hundred years this type of culture contact and interaction has occurred primarily between Euro-Americans and indigenes from non-western societies. This fascinating period of culture contact and change throughout the world has been described in the log books, journals, diaries and letters of explorers, travellers, traders, administrators and missionaries who were first-hand observers and often active participants in the dynamic process of acculturation that took place (Dening 1966:25).

Ethnohistorians have long realized the value these primary documents have for anthropological research. This awareness is increasing in the anthropological community as fortunately anthropologists are now recovering from the ahistorical bias which once dominated social anthropology. The heyday of the ahistorical functionalists' obsession with synchronic analysis is now giving way to more diachronic studies, making room for what Kenneth Bock (1956) calls "The Acceptance of Histories" in anthropological research.(1) Nevertheless, anthropologists have been slow to plumb the depths of this rich data base of primary sources. This chapter deals with only one aspect of this data base which is useful in ethnohistorical reconstruction, namely, those documents created by missionaries.

The primary purpose of this chapter is to expose ethnohistorians to the vast resources of missionary documents, to point out their potential usefulness for anthropological research, and to suggest ways in which they can be used in ethnohistorical reconstruction. I will begin by arguing that missionary documents are a veritable gold mine of resources for ethnohistory and give some examples of how they have been used constructively in anthropological research. Next I will turn my attention to the problem of bias in missionary documents. I will discuss the nature of these documents, their diverse use and function, and the problem of anthropological bias in using them. The paper will conclude with a brief discussion of where missionary documents can be found and their availability to ethnohistorians and other researchers.

THE VALUE OF DOCUMENTARY SOURCES

Before focusing directly on missionary documents it will be helpful to review the value of using documentary materials in anthropological research. Fortunately, anthropologists are rediscovering that science and history need not necessarily be in opposition to one another, that there is a need for both the nomothetic and the ideographic in our discipline. The old notion that history deals only with the singular and the unique, while social science is concerned with generalizations and universal laws, is passe and now challenged by some anthropologists (cf. Bock 1956, Hodgen 1974). As a greater appreciation for the value of history becomes integral to anthropology, the use of primary documents will become more important. Although we must recognize that there is wide variety in the usefulness, quality, and value of documents, this should not, however, dissuade us from using them in anthropological research. Lurie (1961:85-86) has suggested that source material that is not collected by trained anthropologists is of value as long as the person using the material applies the same rigorous tests and safeguards to the documents as one does with one's informants. Unfortunately, as Evans-Pritchard (1961) and Sturtevant (1968) have noted, anthropologists have too often been uncritical in their use of documentary material.

As long as documents are used correctly they can be a source of data that is as rich and useful as are living informants. The key to their value, of course, is using them correctly. And at this point, anthropologists could learn much from the historians such as Gottschalk (1945) in his use of source criticism. This is important because the methods of ethnohistory differ in no way from the techniques of source preparation and criticism employed by historians (Carmack 1972:232). Given this caution regarding the uncritical use of documents we can proceed to outline several areas in which documentary sources are useful in ethnohistory (Tippett 1968:16-17).

1. They are helpful in constructing a chronological framework for ethnographic research (cf. Valentine 1960), especially where informants' recall is confused or nonexistent regarding a time frame of chronological events.

2. They are helpful in recreating a lost cultural context from the recent past, or rounding out our understanding of a specific cultural context.

3. They are helpful in providing cultural data from the past for comparison with cultural data in the present.

4. They are especially helpful in the study of cultural change over time, for documents will frequently shed light on why certain cultural changes have occurred.

Given the fact that documentary sources are invaluable in anthropological research as long as they are used with careful, critical, scrutiny, what can we say about missionary documents? Are they as useful in ethnohistorical reconstruction as other documents, or do they have an inferior status that renders them nearly worthless?

THE VALUE OF MISSIONARY DOCUMENTS

Missionary documents are created by missionaries in the context of their mission activity. These primary documents need to be distinguished from biographies of missionaries or mission histories which are normally written in Europe or America for audiences in those countries, and although they may be useful supplementary material for research, they are not primary documents, since they are not created by the missionaries themselves.

In addition to missionary documents created by European and North American missionaries, there is also a valuable and significant corpus of material created by Third World indigenous missionaries. For example, much of the initial evangelization in New Guinea was done by Tongan and Samoan Christians from the London Missionary Society or by Fijian Christians from the Methodist Mission (cf. Crocombe and Crocombe 1982). These islanders wrote letters and reports home describing their experiences and the socio-cultural context of their work. They commented on the cultural changes that were taking place because of their own missionary presence.(2) For example, indigenous missionary documents from the Milne Bay area predate Malinowski's research there by at least a decade or more. I have cited Melanesia to illustrate my point, but there are many other places where missionary activity has been carried out by other than Euro-American missionaries, and frequently they have created documents during the course of their work. And this tradition continues today. For example, in India there are over 3,000 indigenous missionaries representing 83 societies working cross-culturally in many parts of that country (Wilson and Siewert 1986:23). They are creating records and personal documents in the context of their interaction that are useful to anthropologists concerned with issues such as cognitive change, ethnic identity and the dynamics of culture change.

Alan R. Tippett (1974) in an illuminating paper on extracting anthropological data from Oceanic missionary records, gives us a good working definition of the nature and character of missionary documents. He notes:

> We are concerned therefore with those records which were created in action -- in missionary endeavor itself, in the conversion of the islanders, in the planting of their churches, the emergence of their new Christian structures and descriptions of the contact situation. They emerge in the missionary action itself. We are concerned with the personal records of experience, of achievement, of failure, of anxieties, and of planning. We are interested in letters, in journals, in reports, in minutes of meetings, in discussions that were part of the decision-making process of the early island church. We are concerned with missionary notebooks containing accounts of pre-Christian customs, and descriptions of institutions like cannibalism, widow-strangling, infanticide, folklore, kinship, marriage and trade patterns. We are interested in journal entries in which missionaries narrate encounters with these institutions and their ceremonial practitioners. We are interested in their collected vocabularies, translations, and dictionaries. In other words, we are interested in all kinds of documents created in Oceania, by people who lived there, and about things that were going on there. We are looking for the records emanating from missionaries -- not the writing about them, but the primary sources they themselves created (1974:6-7).

These missionary documents cover a wide range of materials, but they tend to cluster into the following general categories:

1. Official reports from missionaries to their home boards or sponsoring agents.

2. Formal letters to friends and acquaintances describing the work of the missionary. These are

frequently attempts on their part to enlist support for their work.

3. Personal and private letters to friends and family which are not intended for publication.

4. Personal diaries and private journals, photos and other memorabilia.

5. Notebooks, vocabulary lists, ethnographic descriptions that give details of customs, social organization, language, religion, etc. of the people among whom the missionary is living.

6. In some cases, films, 35mm slides and tape recordings which are created by missionaries could be documents that are useful for ethnohistorical research.

How do missionary documents compare and contrast with documents of other observers of indigenous peoples, especially documents created in the early contact period?

The recorded observations of the initial contacts between Euro-Americans and non-western indigenes were made by a wide class of people and not all of the documents they created are of equal value to the ethnohistorian. For example, whalers operating in the Pacific in the first sixty years of the 19th century kept log books of their movements and details of wind, weather, and whales and they made observations of islanders when they anchored for fresh water, firewood, and food. But the nature of their interaction with the islanders was superficial and hence their log books are not a very good source of primary documentation on the contact period. In contrast, beche-de-mer and sandalwood traders of the same period were required to enter into a much closer relationship with the islanders with whom they traded. Consequently their journals are far more informative as a whole than are the log books of the whalers (cf. Shineberg 1971).

Explorers and navigators are another class of observers whose journals describe their contact with indigenes. Indeed, the first thirty years of the opening of the Pacific at the end of the 18th century produced an abundance of published and unpublished materials. Even though these explorations were scientific in nature, they were not of great ethnological importance because of the nature of the contact between Euro-Americans and islanders. Explorers and navigators seldom, if ever, had a knowledge of local languages; they used unskilled interpreters, and the monocultural lens through which their observations were made caused them to focus more on the exotic such as headhunting and cannibalism, and less on the mundane matters of kinship, economics and religion (cf. Dening 1966:25-27).

Many of the documents created by missionaries, however, are in significant contrast to the journals of whalers, traders, explorers and travellers. Unlike the cursory contact of explorers, missionaries came to live among the people about whom they wrote. They often intended to spend a lifetime in the indigenes' society, and so many learned the local language, ate indigenous foods, and established personal relationships with their informants and with those about whom they wrote. The purpose and character of their "mission" was substantially different from that of whalers, traders, and explorers, and this difference is reflected in the documents they created.

Thus, an area in which missionary documents are especially useful is in reconstructing the indigenous pre-contact era or the period before acculturation to Western material artifacts, behavior and ideas has occurred from extensive social intercourse with Euro-American agents of change. The documents created by those first missionary observers are frequently useful in describing the pre-contact period because they contain descriptions of indigenous social organization, customs, beliefs and artifacts as they were in the pre-contact period, before they began changing due to outside Western influence. Let me briefly cite some examples of how anthropologists have, in fact, used missionary documents in ethnohistorical research.

Anthropologists engaged in ethnohistorical reconstruction in Mexico have often relied on 16th century missionary documents (cf. Burrus 1973). For example Klor de Alva (1982) has used the Spanish Missionary Manuals for Confessors of Indians to help reconstruct the Aztec worldview and document their differential responses to Christianity.

He (1983) has also used missionary documents to study how the Japanese responded to the Jesuits in comparison with how the Aztecs responded to the Franciscans in Mexico. Without doubt, in Mesoamerica, the most significant work of missionary writing for ethnohistorical reconstruction is that of the sixteenth century pioneer ethnographer Fray Bernardino de Sahagún (1950-82), (cf. Nicolau d'Olwer and Cline 1973, Nicholson 1975:488, Klor de Alva, et al 1988).

Many anthropologists researching the pre-contact and early contact period in North America have discovered the value of Reuben Thwaites (1896-1901) 73 volumes of _The Jesuit Relations_. For example, A. I. Hallowell (1955:125-150) relied extensively on this source in his study of "Some Psychological Characteristics of the Northeastern Indians". James Axtell in _The European and the Indian_ (1981) and especially in _The Invasion Within_ (1985) demonstrates the value of missionary documents in ethnohistory and uses the _Jesuit Relations_ as well as other missionary documents. Elisabeth Tooker (1964) also used the _Jesuit Relations_ as her primary source in writing _An Ethnography of the Huron Indians_, and they have been the major primary source in James Moore's (1982) _Indian and Jesuit: A Seventeenth-century Encounter_ (cf. Trigger 1965, 1969, 1976, 1985).

Other examples of how anthropologists have used missionary documents include David Scotchmer's (1985) study of the literary corpus of a prominent Protestant missionary in Guatemala. He demonstrates how his ethnohistorical focus on a single missionary enables us to better understand the lives of people who were influenced by and were instrumental in a movement of Guatemalan Protestants. It helps us assess the clash between Guatemalan and North American worldviews, ideologies and values and it serves as a starting point to understanding the phenomenon of contemporary Protestantism as it grew in the Guatemalan context from a single missionary advocate to over 1.5 million adherents during the course of one century (1985:353).

Examples from Africa include Philip Kulp's (1985) study of the Church of the Brethren Mission in Northeastern Nigeria from 1923-1983 and the Nigerian response to the mission as an agent of social change. Here Kulp relied on a whole range of missionary documents combined with interviews of Nigerians who had contact with the mission. Plumbing the archives of the Swiss Basel Mission, Vellenga (1985) documents the establishment in the Gold Coast of a mission using Jamaican and European missionaries and then analyzes this fascinating intercultural arena in terms of how each group of missionaries related to the Africans and interacted with each other. In James Fernandez's (1982) ground-breaking ethnography of a religious movement among the Fang in Gabon, he worked with missionary documents from the Board of Foreign Missions of the Presbyterian Church in the USA and also in the archives of the Paris Mission Society, France d'Outre Mer, in order to ethnohistorically reconstruct the contribution of both American Protestant and French Catholic missionaries to the evolution of Bwiti.

Vinson Sutlive (1978) consulted Anglican missionary sources from the late 19th and early 20th century in order to establish patterns of ritual and behavior and then ascertain the process of culture change among the Iban of Sarawak. Also among the Iban, Penelope Graham (1987) has relied heavily on missionary documents in a study of Iban shamanism.

These are selected examples of how anthropologists have utilized missionary documents for ethnographic and culture history purposes. In the complex arena of culture change, where missionary activity is one of the contributing agents of change, missionary documents are frequently helpful in giving us a fuller picture of events. It is not uncommon to find a single event described by a missionary in several different kinds of documents. For example, there may be an official report made to the government of the country, and a slightly different kind of report to the mission board, along with a personal letter to a friend, and then perhaps even a private entry in the missionary's journal. When all these different accounts of the same event are brought together the researcher can gain a far better understanding of the various factors operative in the situation. The private perspective throws light on the public pronouncement, and the two together give a more rounded and complete picture. I used this method repeatedly in studying the social and religious impact of Anglican missionaries in the Solomons Islands and Vanuatu (Whiteman 1983). Frequently only after I consulted several documents, written for different purposes and "audiences", was I able to grasp the full nature of missionary activity and interaction with Melanesians and thereby understand the latter's response.

Another reason I believe missionary documents are of value to the ethnohistorian is because in many ways the missionary's situation in the indigenous cultural context, where he or she is both observer and participant, is a close approximation to the anthropologist's sine qua non of fieldwork. It is not surprising therefore to discover that missionaries have made some significant contributions to anthropology and linguistics.(3) For example, the Melanesian Mission in the Southwest Pacific was distinguished by having among its mission personnel anthropologically inclined missionaries such as R. H. Codrington, Charles E. Fox, and Walter G. Ivens. Other outstanding anthropological contributions from Pacific missionaries have been made by Lorimer Fison, George Brown, William Ellis, Thomas Williams, William E. Bromilow, R. K. Richard, George Vicedom, Gottfried Oosterwal, Louis Luzbetak, and Alan Tippett. Africa has been the scene of numerous anthropologically minded missionaries who have made significant contributions to the science of humankind. Among these are Dan Crawford, Henri Junod, Edwin W. Smith, Diedrich Westermann, Alexander Heatherwick, Bengt Sundkler, F. B. Welbourn, John V. Taylor, Harold W. Turner, and Aylward Shorter. This list of missionaries includes only some of the more significant; it could easily include hundreds of others from every part of the globe, representing every era of missionary activity.(4)

In addition to using missionary documents for ethnohistorical reconstruction and for ethnographic and culture history purposes, increasingly anthropologists are focusing on the missionary enterprise itself as a legitimate area of study. Herskovits (1962:204) once wrote that, "There is perhaps no aspect of the African experience that has been analyzed with less objectivity than the Christian missionary effort." Herskovits could easily have extended his charge to other areas of the globe. His comments, made a generation ago, are perhaps less true today than they were then, for there has been a quickening of interest in the study of missionaries, and with this interest has come better scholarship and more objective analysis. Burridge (1978) in his eloquent introductory essay in Mission, Church, and Sect in Oceania, noted that:

> There is growing consciousness among students of society and culture -- whether they call themselves historians, economists, anthropologists, sociologists, or missionaries, and whether they study their own or exotic peoples -- that the missionary contribution both in action and reflective scholarship should be reevaluated. The next decade, it is safe to say, will see a host of publications by missionaries and others about Christian missionary activity in Oceania and elsewhere (1978:1).

Burridge's prophecy was correct. There has been a dramatic increase in just the past few years. For example, Beidelman (1982) has published a major study on the Church Missionary Society in Tanzania, focusing on the role of missionaries at the grassroots as part and parcel of the colonial structure in which they functioned. For this study he relied heavily upon missionary documents in the Church Missionary Society archives in London. My own monograph detailed ethnohistorical study of the social and religious impact of the Anglican Melanesian Mission on islanders in Vanuatu and Solomon Islands. I consulted a wide range of missionary documents in this study. James Clifford (1982) has published an excellent study on the missionary anthropologist Maurice Leenhardt and his contributions to Melanesian anthropology and missiology. Jane Hunter (1984), employing an historical more than an anthropological perspective, has focused on women missionaries in China. There has been almost a plethora of recent publications studying the interaction of missionaries and native North Americans (cf. Hu-Dehart 1981, Moore 1982, Vecsey 1983, Bender 1984, Grant 1984, McLoughlin 1984). This is only a partial list of major monographs; it will undoubtedly expand in the next several years as anthropological attention continues to focus on missionary activity.(5)

In concluding this section let me suggest several reasons why I believe missionary documents are significant to anthropological research:

1. There is still a wealth of unexplored anthropological data lying buried in missionary records.

2. The data available in missionary documents is important in the study of culture change through time because the missionary enterprise has been one of the dominant agents of culture change throughout the non-western world.

3. Missionary records have a significant diachronic dimension and describe changes which were advocated effectively and those which were not, and so they speak to applied anthropology and directed cultural change.

4. In many areas of the non-western world the primary observations of the traditional social and cultural patterns in the pre-contact period are found largely in missionary documents, and there is no way of reconstructing the social and cultural patterns of the contact period without using this material.

5. The history of anthropology cannot be written without acknowledging the significant contributions that have been made by missionaries.

Given that there is value in using missionary documents in anthropological research and ethnohistorical reconstruction, let us now proceed to the problem of bias which must be confronted if missionary documents are to be used effectively and accurately.

THE PROBLEM OF BIAS

I will address two kinds of bias that we need to consider in using missionary documents: (1) the bias found in the missionary documents themselves, and (2) the bias of many anthropologists against missionary activity which colors their approach to using missionary documents. This second kind of bias occurs because anthropologists have often uncritically perceived missionaries to be the destroyers of culture. Consequently, they do not have an informed appreciation for the documents missionaries have created.

1. Bias in missionary documents

All documents have a bias which comes from the person who created them. It is not the task of the ethnohistorian to sift through documents in search of those without any apparent bias, for such documents do not exist. Rather the ethnohistorian's task is to discover and understand the bias inherent in a document and then control for it as he or she uses the data in research. All sources have their bias, and they become more valuable to the ethnohistorian when that bias is understood.(6)

A helpful approach to this problem of bias is found in Shafer's (1969:149) A Guide to Historical Method. He distinguishes between bias and subjectivity, and I believe the distinction has value for our discussion here. He notes that bias is a judgment made without carefully examining the data. Subjectivity, on the other hand, is not an ignoring of the facts, but simply the expression of personal values brought to bear on the situation. Bias in a document is therefore quite different from the missionary's subjective interpretation being expressed in a document.

Tippett (1974) in commenting about the problem of bias in missionary documents from Oceania, notes that:

> The question to be asked by the thoughtful man is not 'is it biased?' but 'what is its bias?' It is only thus that we are able to set one document over against another and see both sides of an issue as it stood between the participants in the islands at the point of time we are researching. Furthermore, no matter how biased one particular missionary may have been, he was, nevertheless, part of the historic complex of his time and place, and his evidence is part of the total picture. The researcher who refuses to consider this piece of the jigsaw because it is intellectually unpleasant to him is probably confusing the missionary's personal religious convictions with his own personal bias. Missionaries are individual people and, like anthropologists, they scatter all along the scale of objectivity (1974:3-4).

Therefore, instead of being unduly wary of missionary documents that may be tainted with bias, it is far more important to attempt to understand the wholeness of a document, the context out of which it was created and the configurational whole of which it is a part. This includes, of course, understanding the bias that is implicit in the document and making it explicit. In coming to grips with the subjectivity expressed in a document one can gain a deeper understanding of the factors that influence missionary-indigene interaction and subsequent cultural change. For example, it is important to know something about the missionary's theological presuppositions and his or her missiological paradigm. We need to investigate what is the missionary's theology of culture. Does he or she see culture as the corrupt result of human being's depravity, or does the missionary see culture as an expression of God's revelation in space and time - the language God has used to communicate with humankind - or is some intermediate position held? What is the missionary's perception of salvation and conversion? Does it have an individual and personal focus, or does it include corporate groups and see social structures being affected as well? Is salvation primarily eschatological, concerned with one's spiritual well-being in life after death or is salvation understood to encompass both the spiritual and social dimensions of the here and now and to be more consonant with the Hebrew concept of Shalom? A missionary's ideological frame of reference, informed by his or her theology and church tradition, will greatly influence one's program of action, and this in turn becomes one of the determining factors in the kind of culture change a missionary attempts to introduce into the host society. One's ideology will be expressed in the subjectivity found in the documents one creates. Once this is known it makes the documents more useful, not less so.

Another source of subjectivity in missionary documents that needs to be uncovered is the purpose of the writing and the character of the audience for whom the document has been created. When this is known, the value of a missionary document for ethnohistorical reconstruction greatly increases. Let us take an example of a missionary who writes a letter to the mission board secretary for personal reasons related to his or her work in the cross-cultural situation. The secretary then publishes parts of this letter for promotional purposes in the official organ of the missionary society. Thus, both the purpose of the letter and the character of the audience have been changed. Tippett (1973:129) notes that, "Such documents have historical and anthropological value if the researcher can recognize these motivational rearrangements of the use of documents. The essential information for really critical testing is whether or not the editor edited or clipped the letters."

Allied to the problem of bias in missionary documents is another, even more complex, issue that must be faced in using these documents. This problem concerns the ethnographic competence of the missionary, and it relates directly to the value of the documents created. For example, some missionaries may have had some form of anthropological training, but many had none. Some were good observers, some poor. Some were cross-culturally sensitive, many were not. Yet all the documents they created, frequently unsorted and unclassified, are found together in the archives. The researcher is therefore forced to make judgments about what was an accurate ethnographic description and what was not, what is of value and what is not, and sometimes this is very difficult indeed. I believe our best guidelines for making sound judgments on the value of missionary documents will be found in the methods of historiography. For example, Barzun and Graff (1985:165-167) provide a checklist of questions to ask in assessing the value of a document (cf. Lurie 1961, Sturtevant 1968:456-462).

2. Anthropological bias and missionary documents

We now come to the second form of bias, which is found in the user of the documents, not in the documents themselves. The issue here concerns the bias of anthropologists against using missionary documents, which emerges out of their antipathy for the missionary enterprise in general. For far too long there has come from many anthropologists a naive criticism of missionaries and their activity. At a recent conference of professional anthropologists this popular notion was expressed succinctly when another anthropologist said to me, "Aren't anthropology and missionary work a contradiction of terms?" Part of the lore of our profession as anthropologists has been to accept as axiomatic the belief that missionary activity and anthropological inquiry are irreconcilable. A growing body of literature on the issue of anthropologist-missionary antagonism, however, is helping to clear the air in what has sometimes been a rather heated debate.(7) The recent article by Stipe (1980) and comments by respondents in Current Anthropology demonstrates that this is very much a live issue today. What is emerging from this body of literature is the fact that when it comes to discussing the missionary enterprise, many anthropologists have suspended their commitment to the doctrine of cultural relativism. Moreover, it is equally clear that there is no scientific justification for classifying all missionaries at every period of history as ethnocentric bigots and yet there are still anthropologists today who insist on proclaiming such broad and useless generalizations as, "The missionary goes out to teach mankind, the anthropologist, to learn from them" (Delfendahl 1981:89). Closer to the truth and a more scientific approach is Guiart's assessment that:

> ...missionaries have acquired an immense knowledge of the individuals amongst whom they have worked, knowledge that anthropologists have rarely managed to parallel because of their too short acquaintance with their field.... The indifference, or spite, shown by anthropologists toward missionaries is not based on fact. There is still in missionary archives a wealth of material waiting to be analyzed, if the anthropologist has been trained to make use of it instead of brushing is aside with bigotry (1980:170-171).

It is hoped that whatever personal bias an anthropologist may have against missionaries, that she or he will be able to rise above this form of ethnocentrism and be prepared to evaluate missionaries and their documents critically and objectively. For as Boissevain (1980:168) notes, "In researching the ethnohistory of New England one finds the writing of missionaries indispensable." What Boissevain says of New England can be said for Oceania, Latin America, Africa and Asia.(8)

LOCATING MISSIONARY DOCUMENTS

The final problem we need to address is how one goes about locating missionary documents. I cannot begin to provide a catalogue of these resources, for such a project would take many years and require many books to contain all the information. Nevertheless, I will make some suggestions as to where one might begin.

1. Official archives of the mission societies and organizations.

There are literally hundreds of mission societies scattered throughout the globe. According to the recent (1986) 13th edition of the Mission Handbook: North American Protestant Ministries Overseas [published by Missions Advanced Research and Communication Center, a Division of World Vision International, 919 West Huntington Drive, Monrovia, CA 91016] there are 764 Protestant agencies in the United States and Canada with active overseas work (Wilson and Siewert 1986:592-93). The records of these agencies include documents such as reports, prayer letters, minutes of meetings, personnel files, photos, etc. and will appear in various stages of disarray and incompleteness. Good archives will contain all the correspondence between the missionary and his or her board, annual reports from the field, and various documents that help the researcher understand the role of the mission board in the field situation where missionaries and indigenes are interacting. In areas of the Third World where foreign mission societies are evolving into autonomous local churches, the archival material is increasingly being housed in the local country, not in Europe or America. Frequently these emerging churches do not have adequate resources to create and maintain archives, and yet in principle, these archives rightfully belong to the indigenous church.

2. Private collections

Often a missionary's private correspondence with family and friends, or one's personal journal and diary will be kept bundled up together and stored in a shoe box or some other unlikely place. These are frequently in the hands of relatives of missionaries and it often takes some creative effort to track them down. But the reward is great, for this type of material is usually of a very different nature from that found in the archives of the mission headquarters and enables the researcher to gain a more complete picture of the mission situation.

3. Manuscript collections in major libraries

Many libraries, including public, private and university libraries, have a particular geographic focus and collect material, including missionary documents, in that area. For example, the two libraries in Oceania with which I am most familiar, the Alexander Turnbull Library in Wellington, New Zealand, and the Mitchell Library in Sydney, Australia, have vast collections of missionary documents for the Pacific. Sometimes one will discover the papers of a major missionary figure collected and housed in a particular library. For example, the papers of R. H. Codrington, who was a missionary with the Melanesian Mission (1867-1887), the author of The Melanesians (1891), and contributed the concept of mana to the anthropological world, are found in Rhodes House, Oxford. Edwin W. Smith (1876-1957), is another missionary who made substantial contributions to anthropology, but from Africa rather than Melanesia. The author of two dozen books including his well known The Golden Stool (1927), and the only missionary to serve as President of the Royal Anthropological Institute (1933-35), his papers are housed at the University of Manchester.

In the United States the outstanding center for mission material is Yale University's Divinity School Library which has long maintained a strong emphasis on documentation of Protestant mission activity. In addition to the extensive holdings of printed works in the Day Missions Library, it also has one of the best collections of missionary documents in the world, comprising the personal papers of more than 300 missionaries. There is also a good collection of missionary materials in the former Missionary Research Library at Union Theological Seminary in New York; this has now been amalgamated with the entire library. The newly established Billy Graham Center in Wheaton, Illinois, anticipates becoming a major research center on missionary activity with significant holdings in missionary documents.

The best and most recent guide to repositories of missionary documents in America is an article by Robert

Shuster (1985) entitled "Documentary Sources in the United States for Foreign Missions Research: A Select Bibliography and Checklist." This very important work outlines the challenges of finding missionary documents, includes an excellent but select bibliography of guides to missionary documentary sources and provides a checklist of 127 repositories of missionary documents held in the United States. The International Bulletin of Missionary Research which published Shuster's article, is an important resource for ethnohistorians as it frequently provides information on missionary documentation.(9) It is published by the Overseas Ministries Study Center, 490 Prospect Street, New Haven, CT 06511-2196.

Although there is no one source that lists all of the missionary documentary resources in the United States, the Library of Congress publishes the National Union Catalog of Manuscript Collections which briefly describes collections.

The above are a few suggestions to help point the ethnohistorian in the right direction, but missionary documents will often appear in unlikely places. Nevertheless, once a researcher knows the background of a particular missionary or mission station, it is easier to find where the relevant missionary documents are located.

4. Microfilm and microfiche

There has probably been no easier time than the present to use missionary documents in research, thanks primarily to a new accessibility through microfilming. Many, if not most, major collections have been filmed and are available. For example, the Yale Divinity Library mentioned above has more than 1500 reels of microfilm and 30,000 microfiche representing mission-related archival collections held in other repositories, including: The American Board of Commissioners for Foreign Missions, The Council for World Mission 1775-1940 (including the archives of the London Missionary Society), The Ghana Archives of the Basel Mission, The International Missionary Council and Conference of British Missionary Societies, the Methodist Missionary Society, and others. A large commercial microfilming and information service which has become a leader in microfilming missionary documents is the Inter Documentation Company AG in Switzerland. For example, they have microfilmed the Council for World Mission archives from 1775 to 1940, as well as the joint archives of the International Missionary Council and the Conference of British Missionary Societies relating to India and Africa and covering the period 1910-1945. Catalogues of their microfiche are available [Inter Documentation Company AG, Poststrasse 14, 6300 Zug, Switzerland]. This is but a small sample of the kind of material available.

The Pacific Manuscripts Bureau in Canberra, Australia, is another organization that has microfilmed a great deal of missionary material, and catalogues of their holdings are available.

Another documentation center is SEDOS (Servicio Documentazione E/Studi) located in Rome [Via Dei Verbiti]. It serves to supply member institutions of the Catholic Church with recent material on missionary activities. They publish a fortnightly bulletin.

The International Association for Mission Studies (IAMS) has a special Working Party on Mission Studies and Information Management that meets occasionally (Rome 1980, Paris 1987) and publishes reports [available through IAMS Secretariat, E.M.W., Mittelweg 143, D-2000 Hamburg 13, West Germany]. Their concern is with the creation and maintenance of archives and making missionary documents available for research purposes.

Harold Turner (1985) discusses how the large collection of documents at the Centre for New Religious Movements at the Selly Oak Colleges, Birmingham, England, has been microfilmed and is now being shared in the Third World by microfiche. This is a significant collection, containing many missionary documents, dealing

> ...with the massive development of new independent religious movements in the tribal cultures of all continents as a result of interaction with the Christian faith (and to a much lesser extent with other religions), and lies beyond the usual boundaries of missions and indigenous churches although to some extent it also overlaps these areas (Turner 1985:110).

Turner's project is another example of where missionary documents of value to ethnohistorians might emerge unexpectedly.

This has not been an exhaustive list but it has put the reader in touch with where to find many resources that will discuss actual collections of missionary documents. Its aim has been to point potential researchers in the right direction. One thing is certain. It will sometimes take creative and persistent searching to uncover missionary documents, but once the effort is made and they are found, the contribution they will make to research will be sufficient reward for the effort expended.

CONCLUSION

If anthropological interest in studying missionaries is a growing trend, as I believe it is, and not merely a passing fad, then we need to become more aware of missionary documents, and better equipped to use them correctly. Our research will suffer, it will be superficial and unbalanced, unless we make use of this large corpus of documentary material. Anthropologists and missionaries have often sought out the same peoples in the non-Western world, but nearly always for different reasons. Their ideological objectives and action programs have often been very different, if not diametrically opposed to one another. They have nevertheless interacted with the same peoples. Anthropologists have written their copious field notes and confided their frustration and exhilaration in their personal diaries. Missionaries have also created written records of their interaction with people. Their records tend to extend over a longer time frame than the anthropologists' field notes, but they are also more varied and not always as clearly focused on anthropological subjects. Nevertheless, I submit that we need to use this material more frequently and more carefully.

The objective of this chapter has been to encourage that pursuit and to invite any serious student of society and culture to join in the painstaking and demanding, but rewarding, experience of pouring over missionary documents in search of a more cogent and comprehensive understanding of the cultural contexts in which missionaries and indigenes have interacted through time. The personal reward will be great, the contribution to anthropology will be significant.

NOTES

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1. Some important exceptions to this trend have been Kroeber (1935), Evans-Pritchard (1961), and Hodgen (1974). On the history vs. science debate in anthropology, see M.J. Swartz (1958).

2. Tippett (1973:127-145) has written an excellent article using these Fijian missionary letters to add some significant anthropological understanding on cannibalism, the nature of God, warfare, funerary rites, sorcery, and organizational patterns in the Milne Bay area of Papua New Guinea at the turn of the century.

3. The extant anthropological writings of missionaries are indeed numerous. Rosensteil (1959) has given us a general survey of missionary contributions to anthropology, and Luomala (1947) has documented and evaluated missionary contributions to anthropology in Polynesia (cf. Westermann and Thurnwald 1948). Smalley (1967, 1978) has edited a collection of anthropological articles written mostly by missionaries. This material briefly cited refers to the published contributions of missionaries. Think of the wealth of untapped sources that must exist in the form of unpublished documents.

4. Alan Tippett (1977) has edited an excellent collection of anthropological writings by Protestant missionaries, presenting 93 selections from 61 different missionaries.

Tippett (1977:xi) notes in his introduction to the book that "the editorial problem was not in finding material to cover the whole field of anthropology, but in deciding which selections to make out of a multitude of riches."

5. Other significant anthropological studies analyzing missionary work and cultural impact are Ayandale (1967), Tanner (1967), Tippett (1967), Berkhofer (1965), and Baldwin (1973).

The subject of missionaries has been explored at two recent American Anthropological Association meetings: in 1977 at Houston a symposium was given on this topic, and in 1979 at Cincinnati the topic was "Theoretical and Ethnographic Attention on Missionaries." Papers from this symposium by Beidelman, Rigby, Shapiro and Schieffelin were published in Comparative Studies in Society and History (Vol. 23, No. 1, January 1981). Missionary activity in Oceania was the recent topic of an ASAO Monograph (Boutilier, et. al. 1978), and includes some excellent articles. It is certainly the case in Oceania that any study of cultural change or attempts at ethnohistorical reconstruction will be inadequate unless the role of missionaries is considered. The most recent symposia focusing on missionaries are edited by Whiteman (1985) and Salamone (1985) and are published as Publication Nos. 25 and 26 of Studies in Third World Societies.

6. Cf. Kwast (1973:298-300) for a succinct discussion on problems of documentary interpretation in ethnohistorical research.

7. For further discussion on the issue of anthropologists vs. missionaries, cf. Burridge (1978), Hiebert (1978), Hughes (1978), Luzbetak (1985), Nida (1966), Salamone (1977, 1979), and Sutlive (1985).

8. Kluckhohn (1945:145-147) notes that such important missionary documents as The Jesuit Relations are waiting to "be combed for case materials on individuals....This attack would hold not only for American Indians, but equally for Africans, etc." Franz Boas (1901) used ethnographic and linguistic data compiled

by Rev. E.J. Peck as a basis for his study of the Eskimo of Baffin Land and Hudson Bay. Tippett (1980) has relied heavily upon missionary documents for an ethnohistorical reconstruction of Early Christian Fiji.

9. For example, In the July, 1985 issue (Vol. 9 No. 3) of the *International Bulletin of Missionary Research* there is a focus on "Resources for China Mission Research" with articles describing resources at the Yale Divinity School Library, the archives of the Billy Graham Center in Wheaton, Illinois, and a "Scholars' Guide to China Mission Resources in the Libraries and Archives of the United States."

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USING CENSUS MANUSCRIPTS IN ETHNOHISTORIC RECONSTRUCTION: AN EXAMPLE FROM SOUTH CAROLINA

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INTRODUCTION

> The present is too flat a dimension to allow the broad features of the social landscape to be seen in clear relief (Pitt, 1972:4).

Anthropology is usually associated with the direct collection of data in the field. When attempting to reconstruct the lifeways of a population which no longer exists, however, other sources of information must be consulted. This process, sometimes known as "historical ethnography" (Carmack, 1972:238), often necessitates the use of primary sources to add depth and temporal continuity to the ethnographic record, particularly when used as a supplement to first hand contemporary field data.(1)

Yet, given the broad range of documentary evidence available to ethnohistorians, how can census materials be used to reconstruct a past community? Bare statistics, often recorded by an outsider, do not seem very promising for the kinds of studies usually undertaken by anthropologists.

While the compilations of anonymous numbers issued by the Bureau of the Census may appear formidable, the manuscript schedules used by the actual enumerators are rich sources of data. Access to these documents is restricted in the United States for a period of seventy-two years (Pitt 1972:32). However, microfilm copies of the schedules are available for the first through the eleventh decennial enumerations (1790- 1890).(2) The microfilm reels may be ordered by county for each state and examined on loan or purchased from the National Archives. The study which will serve here as an example concerns the federal census schedules of 1880 for Saint Helena Island, Beaufort County, South Carolina.

HISTORY OF THE U.S. CENSUS

The first United States census was taken in 1790, in accordance with the constitutional requirement that each state's representation in the House be based on its population. The actual enumeration was originally done by Federal marshals who were free to hire their own assistants. The subsequent censuses operated in much the same manner although the schedule of questions became more complex and the territories assigned to individual marshals were often vast. From the simple population breakdown into household heads, free white males over sixteen, free white males under sixteen, free white females, all other free persons, and slaves, which was used in 1790, the scope of the census was expanded by 1880 to collect information on occupations, health, education, manufacturing and agriculture (Holt 1929:3-21).

The census of 1880 represented a radical departure from previous enumerations in terms of bureaucratic reform. The 1870 census, taken just six years after the end of the Civil War, was so chaotic and badly managed that it prompted a Senate bill establishing a whole new administrative machinery within the Department of the Interior. Eighteen eighty was the first year in which a body of fieldworkers and supervisors, specially appointed only for the duration of the census, was sent out to gather information using over five hundred different schedules (Wright 1900:58-62). The enumerators were each assigned a geographic subdivision containing no more than 4000 persons at the last census and were required to be residents of that area. They were directed to visit personally each dwelling place within the bounds of their subdivision and to fill out the schedules "in accordance with the answers to their inquiries" (Holt, 1929:23). To check the accuracy of the returns, each enumerator was also directed to:

> Give notice by written advertisement. . . that he would be at the courthouse of said count on the fifth day after . . . for the purpose of correcting his enumeration by striking out or adding the designation of persons improperly enumerated or omitted; and . . . to correct, on such reliable information as he may obtain, all omissions and mistakes in such enumeration, swearing and examining witnesses for the purpose . . . (Wright, 1900:62).

USES OF CENSUS SCHEDULES

How closely the individual enumerators conformed to these directions is unknown and the reliability of the returns, as will be discussed later, is open to question. As cultural artifacts, however, both the format of the schedules and the instructions to the enumerators can tell us much about the prevailing attitudes of the times. One possibility, as Eckler (1972) suggests, are beliefs about health, mental illness and physical handicaps which may be drawn from the census.

> As evidence of the amount of detail on these subjects (health) we can refer to the special report one persons classified as idiots in the 1880 census. In the tabulation of causes of idiocy, we find one cause given as "drinking cold water" and another, "rocking and swinging" . . . . Needless to say, the special report is a rich source of what families reported about their defective members (Eckler 1972:44).

The assumptions under which the federal bureaucrats who designed the schedules were operating may also be deduced from the list of instructions set up for the enumerators in 1880. One which is particularly intriguing concerns the description of an individual by race:

> Be particularly careful in reporting the class mulatto. The word is here generic, and includes quadroons, octoroons and all persons having any perceptible trace of African blood. Important

> scientific results depend upon the correct determination of this class . . . (Wright 1900:171).

While population census data has been used for purely demographic studies, more qualitative information, as illustrated above, can be extracted from the schedules. For ethnohistorians working in the United States, such records represent a vast store of usable data on both past and current populations. The following description of a method used to gather and analyze data from the census of 1880 for Saint Helena Island, South Carolina, is part of an ongoing study of that community as it exists today (Guthrie, 1977; 1980). The data are being used to trace such structural components as kinship, household composition, and settlement patterns over a period of one hundred years. In attempting to investigate these classic anthropological problems through the census, I hope to show how historical statistics can be adapted to extend and enrich the traditional ethnographic approach.

EXAMPLE: SAINT HELENA ISLAND, 1880

Saint Helena is one of the Sea Islands which stretch along the southeastern coast of the United States from South Carolina to Florida. Consisting before the Civil War of extensive, isolated plantations with large slave populations, the region is a repository of the distinctive Gullah dialect and culture (Jackson, Slaughter, and Blake 1974; Jones-Jackson 1978; Moran 1981). Land distribution to free Blacks after the war provided the population with a secure economic base from which to develop and maintain autonomous religious, social, political, and legal institutions (Guthrie 1977; 1980; Rose 1964). Due to the isolation from the mainland and the relative lack of white interference, the area has long been viewed as an enclave of African "Survivals" in everything from language and folklore to farming techniques and burial practices (Herskovits 1941; Bascom 1941; Georgia Federal Writer's Project 1940; Turner 1949; and others). A reconstruction of patterns of household composition for the island in 1880 must, therefore, address the debates on African retentions, the effects of slavery on Black families, and the differences in household form between contemporary Black and White Americans.(3)

The documents examined in this study were microfilm photographs of the original census schedules for Saint Helena Island, written in longhand by the enumerator, Thomas B. Chaplin, in the summer of 1880. The microfilm was obtained on a temporary loan from the National Archives to the Mount Holyoke College Library and later purchased by the Library so that work could continue on the project. The decision to concentrate only on the records from 1880 was made when a comparison with the 1870 returns showed that much more relevant data was provided by the later schedules. Most important, the 1870 census did not list the relationship of each member of a particular household to the household head. This type of information, which was recorded in 1880, is crucial for understanding household composition. Without such designations, the relationships between individuals sharing a residence must be deduced from their ages relative to one another and from the order in which their names appear on the schedules. The need for this kind of "educated guessing" was eliminated by focusing on the 1880 material.

Although a microcomputer data base management system could be designed to handle the large number of census reports, for this study the data were recorded on white 6 inch by 4 inch index cards; one card representing each "dwelling" as defined by the Instructions to Enumerators (Wright 1900:170). At the top left-hand corner, each card was labeled "Saint Helena Island", followed by the numbers which correspond to the "dwelling in order of visitation" and the "family in order of visitation" as recorded on the schedules.

At first, the phrasing of the schedules raised questions as to just what constituted a "dwelling" or a "family." Further research provided the "official" definitions of these terms:

> A dwelling house, for the purpose of the census, means any building or place of abode, . . . in which a person is at the time living . . . . The word family . . . includes persons living alone, as previously described, equally with families in the ordinary sense of the term, and also all larger aggregations of people having only the tie of a common roof and table . . . (Wright 1900:171).

In this rather broad definition of what constitutes a family, the census officials showed themselves to be unusually open-minded and less ethnocentric than some recent social scientists.(4) In Chaplin's enumeration of Saint Helena, however, separate "families" were recorded within single dwellings in many cases. I will return to this point later.

Each index card was labeled on the top line, right-hand corner, with the date of the census, 1880, and the page number on which the data appeared on the original schedules. This made it possible to more easily check the accuracy of each entry on the cards against the microfilm.

The entries themselves were made in the order that they appeared on the original documents and every effort was made to reproduce exactly what was recorded, including cross-outs and revisions. The head of the household, first and last names, appeared first, followed by his/her spouse (if living) and the other residents of the dwelling. All other persons were listed by first name only unless their surnames differed from that of the head.

The race, age and sex of each person was entered beside his/her name, followed by their relationship to the household head and their occupation. When transcribing the relationship entries, terms such as "daughter" or "grandson" were converted to standard anthropological kinship notation, using the symbols M,F,S,D,B,Z,H and W.(5) Relationships which could not be expressed in these symbols such as "step", "ward," or "adopted," were spelled out along with the appropriate symbol. Certain ambiguities arose when a person was listed as "grandson" and a number of persons resident in the same household were capable of being the parent. Whenever possible, the exact relationship was deduced from the marital status, age and surnames or the household members. Often the question was solved by the grouping together of separately enumerated families within the same dwelling. In those cases in which accurate determination was impossible, the entry "SS/DS" or "SD/DD" was made.

Marital status was not generally noted, except in cases of the death or divorce of a spouse. This was indicated on the cards by the number eleven "11", corresponding to the column on the schedules in which this data was recorded. The persons not designated with this number were assumed to be unmarried if a spouse did not appear as resident in the household or, in the case of a woman, if her surname was the same as that of her parents and siblings. It should be noted that such information can tell us little about informal and non-residential relationships.

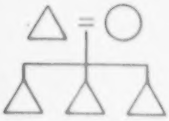
Also transferred from the original documents was the number twenty "20", indicating that the individual was maimed, crippled, bedridden or had some other disability. Place of birth was not noted unless occurring outside of South Carolina.

With the exception of the enumerator, Thomas Chaplin, and a few other families who had immigrated to the island from outside the state, the entire population of the island in 1880 was Black or mulatto. This type of data is especially valuable in examining the structure of Black household composition in the rural South, just sixteen years after emancipation. Hopefully, it may also be useful in deducing something of the folk model by which Blacks organized domestic kin relations at this time.

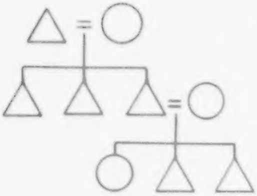
Since space does not allow for a complete analysis of every family listed on the 88 pages of entries for Saint Helena Island, a sample of the households was chosen in order to form a representative picture of the basic residential unit. Taking the first 54 households enumerated, admittedly a potentially biased sample since we do not know just where on the island Chaplin began his survey, cards were chosen at intervals of seven "7". Those households which were analyzed, therefore, were numbered 7, 14, 21, 28, 35, 42, and 49. The figure seven was arbitrarily chosen to provide a workable number of households to examine in greater detail. Those which came up in this sequence were plotted genealogically and compared. While the study is not the product of a statistically random survey, it does demonstrate how a more inclusive universe may be sampled from the same data base.

As Table 1 demonstrates, all of these households contain more than one generation; some consist of three generations presumably living together as an economic and social unit. The basic pattern, considering the entire

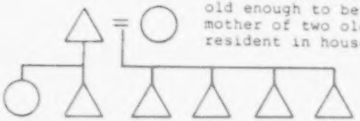
TABLE 1
GENEALOGIES



Dwelling 7, Family 8

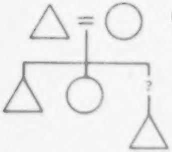


Dwelling 14, Families 16, 17



(Wife in this case not old enough to be biological mother of two oldest children resident in household.)

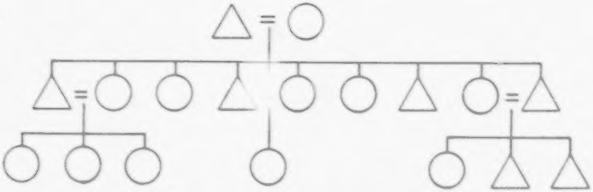
Dwelling 21, Family 24



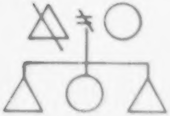
(Neither of the two oldest children resident in household old enough to be biological parent of SS/DS.)

(sex unknown)

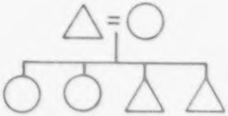
Dwelling 28, Family 31



Dwelling 35, Families 40, 41, 42, 43



Dwelling 42, Family 50



Dwelling 49, Family 58

△ = Male

○ = Female

population as well as the sample, appears to be organized around a conjugal pair and their children. The sample contains one example of a compound family (see no. 3, Table 1) and several extended families. As mentioned above, the enumerator recognized separate nuclear units within single dwellings. Apparently, such distinctions were made according to the presence or absence in the household of additional conjugal pairs, other than the couple listed as household heads. We cannot determine from the census whether the conjugal relationship was a cultural marker of "family" for the white enumerator, the Black population being recorded, both, or neither. As pointed out by Kennedy (1980), vastly different cultural conceptions about who constitutes a "relative" may underlie similar structural arrangements. The observation that conjugal units are present in the majority of these households does not indicate that Blacks lacked culturally distinctive ways of organizing their domestic lives.

As it can be seen from Table 1, a female-headed household occurs only once in the sample (no. 6) and in this case represents the dissolution of a conjugal pair by death or divorce. Evidence from this population as a whole contradicts the previously widely-held concept of the Black "matriarch" which has been perpetuated and legitimized by much social scientific literature (e.g., Frazier 1939; 1957; U.S. Department of Labor 1965) Although for a time it was fashionable to attribute the "destruction" of the Black family to slavery, the census shows that an overwhelming percentage of the rural Black population of this South Carolina Sea Island was living in households with both male and female heads less than a generation after the Emancipation Proclamation.

When attempting to abstract the folk model of kinship, or the "culturally recognized connections" (Keesing, 1975:150) which operated on Saint Helena Island from the preceding data, a major problem was the inability to trace kin lines across residence units. The census schedules cannot give us information about who an individual considered his or her kin, but we can at the very least make some negative statements.

Blacks on Saint Helena did not live in sibling sets, unilineal descent groups, or even in the proverbial female-headed extended families. Formalized marriages, at least as indicated by the female partner and children taking on the surname of the male, appear to have been the norm. Households included persons related through both men and women, a pattern typical of American cognatic descent. Children were considered a part of their parent's dwelling unit until their marriage and sometimes beyond, eventually creating their own nuclear families within the parental structure. Guthrie (1977:71) reports on the existence of this residence pattern on contemporary Saint Helena: "Ideally, when a man marries for the first time, he brings his bride to live in the household where he was reared." Another pattern in which we can demonstrate continuity over time is the tendency of kin to settle in close geographical proximity with one another. This can be deduced from the census record if we assume that people having the same last name are related to each other. Out of the 64 family units considered in this study, only 40 different surnames appear on the schedules. Often a series of dwellings, the residents of which share the same name, may be seen to cluster together. Once again, Guthrie has noted that:

> For St. Helenians, a piece of land becomes desirable for a dwelling if it is situated in close proximity to the appropriate kin folk. More exactly, sons try to acquire land for a house in a location adjacent to the household of their parents (Guthrie 1977:71).

In general, it was found that the census was most valuable for testing assumptions made about kinship and household composition on the basis of other information. It can be especially important in providing a concrete picture of how a people's cognitive models are expressed in the everyday relationships and spacial arrangements of their lives; in household composition, in settlement patterns, economic cooperation and the relationship between the generations. By using historical documents, as Pitt (1972) points out, we can examine not only those structures which have endured, as on Saint Helena Island, but also those which have changed or been modified. Guthrie's material on present-day Saint Helena helps us to interpret the 1880 census results even as the historical background adds depth to her own work.

THE QUESTION OF RELIABILITY

As the above example illustrates, a researcher may start off expecting to extract a certain type of information from the census, in this case, "kinship", only to find that such a study is impossible, given the constraints of the data base. Obviously, there are some projects to which census analysis simply does not lend itself. Even when a research design is structured around the data base itself, there remains the often considerable question of accuracy.

The tedious process of transcribing the entire Saint Helena census onto file cards has often been enlivened by catching the "mistakes" made by the enumerator Chaplin. Simple errors such as listing a male individual as the "daughter" of a household head and the failure to consistently differentiate between conjugal units within the same dwelling are examples of Chaplin's inattention to detail. At one point, he seems to have become confused about his numbering system, throwing the entire census (and my file cards) off by a multiple of ten.

In addition to simple human error, all early censuses takers were subject to corruption and intentional error and these factors must be taken into consideration. The first Superintendent of the Census, Francis A. Walker, noted the difficulty raised by questions of political allegiance in the south after the Civil War:

> When the appointments of enumerators were made in 1870 the entire lot was taken from the Republican party, and most of those in the South were negroes. Some of the negroes could not read or write and the enumeration of the Southern population was done very badly (Walker, quoted in Holt, 1929:20).

The fact that enumerators were paid at a rate of ten cents for every one hundred names listed was undoubtedly a motivation for falsifying the schedules, notwithstanding the stiff fines imposed on those who were caught (Wright 1900:62). Therefore, while the Federal census may be extremely useful in ethnohistoric research, like any other primary source it is best approached with a certain amount of caution and an awareness of its deficiencies as well as its assets.

SUMMARY AND CONCLUSIONS

Census records, when utilized with care, can yield immense amounts of both quantitative and qualitative data. They can provide information not only on the structural and statistical outlines of a community, but on values and attitudes as well. The method illustrated above, in which household enumerations were genealogically diagramed, helps to recreate a tangible picture of Saint Helena family structure and makes possible comparisons with the present-day population. It is this deeper dimension, this projection of a modern community study out of the "ethnographic present", which makes the field of ethnohistory so enlightening. The Federal census manuscripts can be an important tool for reconstructing past communities and adding a diachronic scope to anthropology.

NOTES

1. This paper was originally written as an undergraduate project on kinship and social organization, under the direction of Dr. Patricia Guthrie at Mount Holyoke College in the fall of 1978. While the paper has been revised and updated, the limited scope and tenuous conclusions provide an example of one type of methodological training at the undergraduate level.

   An earlier version, "An Anthropological Methodology for Analyzing Historical Statistics: Black Models of Kinship, St. Helena Island, South Carolina, 1880," was presented at the Third Annual Symposium on Language and Culture in South Carolina, held at the University of South Carolina in March of 1979. I subsequently carried out fieldwork on another South Carolina Sea Island during the summer of 1980.

2. Unfortunately, most of the manuscript schedules from the eleventh census (1890) were destroyed by fire in 1921. The twelfth census (1900) is still restricted to "authorized historical, genealogical and biographical researchers." No copies of the census of 1900 may be made and the schedules may only be seen at the Federal Archives; they are not available for loan. The "Soundex" an index to family names which appear on the 1900 schedules, was compiled in the 1930's by the Works Progress Administration. Access to the "Soundex" is subject to the same restrictions as the 1900 census (List of National Archives Microfilm Publications, Washington: National Archives and Records Services Administration, 1975 pp. 33-38).

3. Recent ethnographic work on Afro-American kinship has demonstrated that, even when structurally similar to Euro-American households, membership and participation in domestic groups may be governed by very different cultural rules and definitions of "family." See Stack 1974; Young 1970; Kennedy 1980; B. Valentine 1978; Aschenbrenner 1975. All of these authors are highly critical of the use of contemporary aggregate census figures for describing Black/White differences in family structure.

4. For example; United States Department of Labor, The Negro Family: The Case for National Action, Washington: Government Printing Office, 1965. For criticisms of the white and middle-class bias contained in the report, see The Moynihan Report and the Politics of Controversy, edited by Lee Rainwater and William Yancey. Cambridge, Mass.: M.I.T. Press, 1967; and Culture and Poverty: Critique and Counter-proposals, by C. Valentine (1968).

5. M = mother, F = father, S = son, D = daughter, B = brother, Z =sister, H = husband, and W = wife.

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METHODS FOR EVALUATING THE ACCURACY OF CENSUS REPORTS AS ETHNOHISTORICAL DEMOGRAPHIC DATA:

A BRIEF ASSESSMENT OF PIMA AND MARICOPA POPULATIONS

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INTRODUCTION

With a rising interest in the ethnohistorical use of census reports, it is essential that data be evaluated for accuracy before they can be used to test hypotheses or make generalizations. This paper considers selected methods of evaluation of the accuracy of total population, sex, and age data derived from census reports of the Pima and Maricopa Indians of central Arizona. Testing for the probability of chance occurrence of a sex ratio and cohort survival analysis are discussed, while other methods, such as Whipple's Index, are also critiqued. The utility of these methods for other ethnohistorical studies is considered.

Among ethnohistorians, there has been an increasing interest in studies of Native population statistics, especially since Dobyns' (1966) hemispheric survey. Every ten years since 1950 there has been a vast increase in publications using Native American population census data. This is a welcome reversal from an earlier era, when such studies were not only unfashionable but even a bit unrespectable. Although there were exceptions such as Sherburne F. Cook, earlier population studies often ignored population data which investigators knew to exist. This approach is well-exemplified by Pearl Beaglehole (1935:41), who, in presenting some Hopi population data, stated: "I have not used the government census material because this, I think, is of more than doubtful accuracy." Fortunately, this attitude has changed, and present-day ethnohistorians, whatever their discipline, have realized the tremendous potential for use of population data collected by colonial and national governments.

However, in desiring to show results from the analysis of population data, it behooves all ethnohistorical demographers to carefully evaluate the accuracy of their data, lest critics return to the attitude expressed by Beaglehole. All population data are inaccurate to some degree, and for Native North Americans, this degree is usually quite large. Some modern studies have been less than meticulous in evaluating the accuracy of data which are then employed to test hypotheses or make generalizations about demographic history (e.g., Zubrow 1974). With the use of extensive data evaluation techniques, Native American population data can be more successfully employed, or so I am convinced from my own work on the historical demography of the Pima and Maricopa Indians of central Arizona from 1846-1974 (Meister 1975, 1976, 1978).

Therefore, with the aim of further encouraging students of ethnohistorical demography to talk more about method in addition to theory, I shall present several methods which I found useful for evaluating the accuracy of demographic data for the Pima and Maricopa. These methods should be of use to all workers in Native demography, and especially those interested in Native American ethnic groups now within the United States, and who use the data in the Annual Report of the Commissioner of Indian Affairs, the census rolls published on microfilm by the U.S. National Archives, and U.S. Bureau of the Census figures. These are the main demographic data sources for United States Indians from the mid-nineteenth through twentieth centuries, or at least those sources that have any historical continuity.

I will be dealing with methods primarily applicable to censuses, rather than estimates, which are more difficult to evaluate for accuracy. The types of data which I shall examine are: total population, population by sex, and population by age. My examples, of course, will come largely from the Pima and Maricopa. By accuracy I mean the extent to which the "real" population or universe is enumerated (or estimated); thus, the more accurate the data, the closer the data are to the actual number of people, or males and females, or persons by age.

Total Population

It should be obvious that it is seldom that one can accept total population figures for North American Indians at face value, especially to quote an isolated figure as the "true" population as of a certain date. For example, J. Ross Browne (1871:290) reported that in (presumably) 1864, there were 3405 Pima and Maricopa, getting his data from "the best authorities," apparently the village populations from the 1860 Census (Table 1, column 3). But in tabulating the village populations in the 1860 Census, I found that there were actually 3714 Pima and Maricopa counted, and this was for 1860, not 1864 (Table 1, column 1). Furthermore, this figure of 3714 in itself needs to be further evaluated as to what extent it includes all Pima and Maricopa.

Thus, one might turn to a primary source to get a more accurate figure, such as by using the actual census schedules. But even in this case caution is necessary. Using the census roll of the Office of Indian Affairs for the Apache and Yavapai (the latter erroneously referred to as Mohave and Yuma) at San Carlos in 1897 (Myer 1897), the last number the agent has written alongside the names of persons enumerated is 3197. If one looks at the 1898 census roll, 2922 is the final number on the roll (Rice 1898). What happened? An epidemic? Some of the people left the reservation? In fact, in writing the numbers on the rolls, the agents made errors. In 1897, the agent skipped 102 numbers, making his reported total too high. In 1898 the new agent repeated 202 numbers, making his reported total too low. Thus, the correct number of names was 3095 in 1897 and 3124 in 1898, an increase of 29 persons in one year, for a growth rate of 0.9%, which is not surprising.

Therefore, as a first rule of evaluating total population figures, I suggest that one collect as many figures as possible, so that each total population figure can be put in the context of all others. If you are using Bureau of Indian Affairs rolls, count the number of names yourself; don't rely on the numbers reported on the rolls. This takes times, but it produces better data for you and others. As an example of how this is so, examine some Pima total population figures which were reported by Hrdlicka (1908:6). These figures are starred in Table 2 and were originally obtained by the then Office of the Census from population or

TABLE 1
PIMA AND MARICOPA POPULATION BY VILLAGE: 1860 CENSUS AS REPORTED BY DIFFERENT SOURCES

Village	Column 1	Column 2	Column 3
Agua Raiz	523	533	533
Arenal	577	616	616
Cachanillo	504	438	438
Casa Blanca	323	315	315
Cerrito	257	257	259
Cerro Chiquito	232	232	...
Hormiguero	510	514	514
Llano	394	392	392
Pima Villages	3,310	3,297	3,067
Hueso Parrado	259	232	232
Sacate ("Sacaton")	144	106	106
Maricopa Villages	394	338	338
Pima and Maricopa	3,714	3,635	3,405

SOURCES: Column 1: USOC (1860)
Column 2: McMahon (1860:231)
Column 3: Browne (1871290)

TABLE 2
PIMA TOTAL POPULATION - 1890-1910

Year	Column 1	Column 2	Column 3	Column 4
1890	4,414	4,418	4,421	4,464*
1891	4,000	4,386	.....	.....
1892	4,152	.....	.....	.....
1893	4,000	/4,150	.....	.....
1894	3,838	3,841	3,843	.....
1895	4,266	.....	.....	.....
1896	4,260	.....	.....	.....
1897	4,260	.....	.....	.....
1898	4,260	.....	.....	.....
1899	4,260	.....	.....	.....
1900	4,350*	.....	.....	.....
1901	4,400	.....	.....	.....
1902	4,400	.....	.....	.....
1903	4,450	.....	.....	.....
1904	3,840*	6,600	.....	.....
1905	3,900	/4,000*	.....	.....
1906	3,936*	.....	.....	.....
1907	4,037	.....	.....	.....
1908	4,037	.....	.....	.....
1909	4,145	.....	.....	.....
1910	4,236	4,305	.....	.....

SOURCES:

1890, Col. 1: Dorchester (1890:263)
1890, Col. 2: My tabulation of Crouse (1890b)
1890, Col. 3: Crouse (1890a:4, 1890b); "Table" (RCIA 1890:448)
1891, Col. 1: RCIA (1891:495)
1891, Col. 2: Crouse (1891:214); "Table" (RCIA 1891:756); Dorchester (1892:566)
1892: Crouse (1892:218); "Table" (RCIA 1892:784)
1893, Col. 1: "Table" (RCIA 1893:694); Whittemore (1893:80)
1892, Col. 2: Crouse (1893:114)
1894, Col. 1: Young (1894b)
1894, Col. 2: "Table" (RCIA 1894:568)
1894, Col. 3: Young (1894a:104)

TABLE 2

SOURCES (Cont'd.)

1895: Young (1895a:121, 1895b); "Table" (RCIA 1895:564)
1896: Young (1896a:520; 1896b); "Statistics" (RCIA:520)
1897: "Statistics" (RCIA 1897:482)
1898: "Statistics" (RCIA 1898:598)
1899: "Statistics" (RCIA 1899:562)
1900: Hadley (1900:198); "Statistics" (RCIA 1900:638)
1901: "Statistics" (RCIA 1901:686)
1902: "Statistics" (RCIA 1902:630)
1903: "Population" (RCIA 1903:506)
1904, Col. 1: "Population" (RCIA 1904:594)
1904, Col. 2: "Hrdlicka (1908: Table X)
1905, Col. 1: Alexander (1905:174); "Population" (RCIA 1905:516)
1905, Col. 2: Hrdlicka (1906:39)
1906: Alexander (1906:187); "Population" (RCIA 1906:481)
1907: "Population" (RCIA 1907:177)
1908: "Population" (RCIA 1908:183)
1909: "Population" (RCIA 1909:143)
1910, Col. 1: USBC (1915: Table 9)
1910, Col. 2: "Population" (RCIA 1910:60)

statistics tables in the "Annual Report of the Commissioner of Indian Affairs" for the appropriate year. Hrdlicka felt that the 1904 figure (3840) was more accurate than that of 1903 (4450) because there was no evidence of an epidemic in 1903-1904, and because 1904 clearly agreed with 1905 (3900). But the 1905 figure is obviously an estimate, and thus 1904 could be more greatly in error than 1903. In fact, when all figures from 1890-1910 are taken into consideration, most fall above 4000 (although some are repeats), and thus with no reported epidemic in 1903-1904, I feel that it is the 1904 (and 1905 and 1906) figures that should be treated with suspicion. There is no reason why the population should have declined from 1903-1904. Furthermore, if the 1904 and 1910 figures (the latter unavailable to Hrdlicka at the time he wrote) are correct, then Pima population increased at an annual rate of 1.9% from 1904-1910, which seems a bit high for the time. It appears that either Hrdlicka didn't have enough data or wasn't willing to consider the possibility of underenumeration in 1904.

This case suggests another rule: some figures are more accurate than others, and if you are going to evaluate figures for accuracy, a census is superior to an estimate. With a census, there is more to evaluate, usually including persons by sex and age, which we shall see later can be of great value in evaluating the accuracy of total population figures. Furthermore, by evaluating census figures for accuracy, it becomes apparent that estimates are sometimes too high, sometimes too low, and all too infrequently, about right.

As another rule, I think that in most cases one may assume underenumeration of American Indian populations. Why should Indians want to be counted? Why should the enumerator find all Indians? The main reasons would appear to be for purposes of allotment and rations or annuities. So unless there is some benefit to being counted, it seems safest to assume underenumeration. After all, the United States Census of 1970 even undercounted the total United States population by an estimated 2.3%-2.8% (Siegel 1973:4).

Unfortunately, one cannot assume greater accuracy the more recent the data, even for a census. The 1970 Census Bureau figure for the Salt River Indian Reservation of central Arizona left out as much as 65% of the population, which is worse than some earlier enumerations (Meister 1975:740).

One method of evaluating a series of total population figures for rough accuracy, or accuracy of trend, is to compare the trend of the figures with what you would expect from qualitative data. For example, until the early twentieth century the annual reports of Indian agents were published in the Annual Report of the Commissioner of Indian Affairs. If the agent reported epidemics, starvation, or other catastrophes, one would expect population figures to decline as well. If there is a discrepancy between the narrative report and the population figures, it must be explained. For example, I found that while Pima population figures declined from 1860-1864 and the Pima remembered the 1860s as a time of sickness and death (Russell 1908: 48:52, visitors to the area reported the Pima as being in perfect health (Rusling 1874:369) and even the Indian agent of the late 1860s played down the effect of epidemics earlier in the decade (Ruggles 1869:209).

Finally, one may attempt to estimate the total population from other, presumably more accurate data for some part of the population. The estimate may then be compared with the enumerated figure. Bertram Kraus (1954) did this for Arizona Indian populations. He used school enrollment figures for each reservation and divided each such figure by the proportion of persons of comparable age in the United States Census age distribution for the same reservation. Obviously, the two populations (school enrollment and census) must be the same in terms of residence status. At any rate, this gave Kraus larger figures than those in the census. I experienced the same situation in studying Pima and Maricopa population (Meister 1975:710-741).

Population by Sex

In any well-enumerated, "normal" population of fairly large size, one expects to find relatively equal numbers of males and females. It is true that at birth more males are born than females, but women tend to live longer than men, so it more or less evens out; or, to put it demographically, under these conditions, one expects the sex ratio to be about 100. The sex ratio is the number of males in a population divided by the number of females, multiplied by 100. Part of the evaluation of data accuracy, then, is explaining why the sex ratio differs from 100 (when it does). If that be the case, there are several reasons, one or all of which may be at work.

One possibility is that either males or females were more greatly underenumerated (or overenumerated) in relation to the opposite sex. But there may also be other factors at work: among them, female infanticide, high maternal mortality, or high male mortality from warfare or accidents. These differential mortality factors are another reason for imbalance in the sex distribution of a population. However, with American Indian populations, which are often quite small (sometimes only several hundred persons), yet another factor is of great importance and can also affect the sex ratio. This factor is random variation; that is to say, in a small group of American Indians, just by chance, considerably more females than males may have been born over a period of time, or the reverse. So before assuming that unequal numbers of males and females result from some cultural, disease, or enumerational factor, one should determine the probability of chance occurrence of a sex ratio for a given population. This method was recommended by Norma McArthur (1961:8-11) who faced the same problem of dealing with small populations, in her case, in Oceania.

McArthur (1961:113) gives a table from which one can assess probability of chance occurrence of the number of persons of one sex for total populations of 10-5000 by showing the highest and lowest numbers of such persons expectable at the .05 and .01 levels of probability. Since using the table usually involves a bit of interpolation, in most cases it is just as easy to calculate the probability yourself, by means of the proper formula. To determine the probability of chance occurrence of a sex ratio, it is first necessary to calculate Z, the formula for which is

$$Z = \frac{P\hat{s} - P\hat{u}}{\frac{\sqrt{P\hat{u} \cdot q\hat{u}}}{N}}$$

where

Ps = the proportion of males (or females) in the population
Pu = the expected proportion of males (or females) in the population (0.5)
qu = 1 - Pu
n = the total population

Having determined Z, which is in standard deviations, the next step is to use a conventional table which converts Z into area under the normal curve, subtract this figure from 0.5 and thus obtain the probability, p. This is true when doing a one-tailed test, in which case there is an alternate hypothesis or hypotheses, such as predict a deficit of females, say from high maternal mortality, or a deficit of males from high male mortality in warfare. But if a deficit of either males or females is likely (i.e., no alternative hypothesis), then a two-tailed test should be used, which is obtained by dividing the first probability by 2.

Next, it is necessary to decide whether the probability of occurrence of the observed sex ratios (technically, proportion of persons of one sex in the population) is likely to be a result of chance alone. In general, if the probability is .05 or greater, the proportions of the sexes are quite likely to occur by chance alone. If the probability is .01 or lower, it is quite unlikely that the sex ratio is a result of chance alone. If the probability lies between .01 and .05, it is more difficult to decide.

In order to demonstrate how testing for the probability of random occurrence of sex ratio can help evaluate data, observe Table 3, which contains all Pima population by sex figures that I could find for 1890-1910. If we were to follow Hrdlicka and give greater credibility to 1905 and 1906 Pima population figures (1904 obviously being an estimate), we observe some sex ratios that are rather unlikely to occur by chance. In fact, the chance occurrence of the 1905 sex ratio is considerably less than .01, namely .0009. Using the 1905 and 1906 figures alone, we may entertain the possibility that either differential underenumeration by sex or some other factor (higher maternal mortality?) resulted in a deficit of females among the Pima. But when we look at other sex ratios for the Pima from 1890-1900 and 1911-1928

TABLE 3
PIMA POPULATION BY SEX, SEX RATIO, AND PROBABILITY OF OCCURRENCE OF SEX RATIO BY CHANCE, 1890-1910

Year	Male	Female	Sex Ratio
1890	2,274	2,144	106.1
1890	2,265	2,156	105.1*
1890	2,265	2,199	103.0
1891	2,238	2,148	104.2
1892	2,142	2,010	106.6*
1894	1,985	1,853	107.1*
1895	2,189	2,077	105.4*
1896***	2,359	2,241	105.3*
1900	2,210	2,140	103.3
1904	3,300	3,300	100.0
1905	2,047	1,853	110.5**
1906	2,078	1,858	111.8**
1910	2,198	2,038	107.9**

SOURCES

1890: Tabulation of Crouse (1890b, 1890a:4); USOC (1984:98)
1891: Crouse (1891:214)
1892: Crouse (1892:218)
1894: Young (1894b)
1895: Young (1895a:121, 1895b)
1896: Young (1896b)
1900: Hadley (1900:198)
1904: Hrdlicka (1908: Table IXO
1905: Alexander (1905:174)
1906: Alexander (1906:187)
1910: USBC (1915: Table 30)

* $.01 < p < .05$
** $p < .01$
*** Includes Maricopa

(the latter shown in Table 4), it is still true that there is almost always a deficit of females, but in 13 cases it is likely from chance alone, in 10 cases the probabilities lie between .01 and .05, and in only 2 other cases is the sex ratio chance occurrence at the .01 level or below. These two cases are from 1925 and 1927, some time distance from 1905, 1906, and 1910, the other cases of sex ratios unlikely to occur by chance.

Thus it appears that in 1905 and 1906 the high sex ratios and smaller total populations resulted at least in part because females were more greatly underenumerated than males. This also appears to be the case for 1910. The rest of the 1890-1910 sex ratios are more or less expectable by chance alone, so there is no reason to assume that female infanticide, high maternal mortality, or other such factors caused a deficit of Pima females unless other data, such as causes of death, are available and provide such support. Moreover, by comparing sex ratios which themselves have been evaluated for probability of chance occurrence, it is possible to determine which censuses show inaccuracy because of greater relative underenumeration of one sex.

If a sex ratio is (or better, sex ratios are) going to be used as support of the presence of female infanticide, high maternal mortality, or high male mortality from warfare, or any other factors producing an imbalance of males and females, a series of sex ratios must be shown to be highly unlikely by chance alone, unless there are other, more direct data to support the hypothesis, such as number of births by sex and number and causes of deaths by sex. Unfortunately, such data are hard to come by, for good vital statistics are all too often nonexistent for American Indians, especially before the 1950s.

Population by Age

Evaluating age data can serve at least two functions: first, if one is interested in the age distribution of a population, it is important to evaluate the accuracy of age statement and recording; second, age data can shed light on underenumeration or overenumeration in a census. Let us examine both uses of age data.

TABLE 4
SEX RATIO OF ENROLLED POPULATION BY RESERVATION, 1911 - 28

Year	Total	Gila R.	Salt R.
1911	NA	NA	104.7
1912	103.0	101.7	108.8
1913	103.1	102.1	107.6
1914	103.4	102.1	109.4
1915	102.4	104.5	93.6
1916	104.7*	103.6	109.7
1917	104.5	103.6	108.6
1918	105.5*	103.6	113.7*
1919	99.0	96.9	109.0
1920	99.5	96.7	112.1*
1921	99.0	96.1	112.6*
1922	103.7	102.0	111.9*
1923	105.4*	104.0	111.7*
1924	105.8*	104.2	113.2*
1925	108.2**	106.8*	114.5*
1926	105.8*	104.7	110.2
1927	109.9*	109.4**	111.8*
1928	NA	107.6**	NA

SOURCE

"Table" (RCIA 1911-28)

* .05 > p > .01

** p < .01

For evaluating accuracy of age statement, one of the easiest ways is to graph the number of persons by year of age by sex. This has been done in Figure 1 for the Pima and Maricopa enumerated in 1895. The figure does not have smooth sides, tapering to a point, as one might expect, but rather bulges, in this case at ages ending in 1: 31, 41, 51, 61, and 71. These bulges, or peaks or heaps, usually come at ages ending in 0 or 5 in most populations, but this example shows that one must always expect the unexpected in working with Native American population data. In 1894, when the original roll was made of Pima-Maricopa population, the enumerator (or enumerated) often gave estimated ages, often ending in 0. When 1895 came, the agent updated the roll by advancing everyone's age, except for new additions and deletions for known deaths.

There are two main ways to provide a summary measure of age misstatement, and they can be of use in comparing age accuracy from one census to another. These are Whipple's Index (Shryock and Siegel 1973:205-206) and Myers' Index or Myers' Blended Method (Myers 1940: 411-415). Whipple's Index assumes that 1/5 of the population aged 23-62 should have ages ending in 0 or 5, and is expressed as 100 times the number of persons ages 23-62 with observed ages ending in 0 and 5 divided by 1/5 of the population ages 23-62. Whipple's Index would be of less value than Myers' Index in evaluating the data shown in Figure 1 because Myers' Index attempts to measure degree of inaccuracy of age statement for all ending age digits, not just 0 and 5, as does Whipple's Index. Moreover, Myers' Index attempts to correct for the fact that there tend to be fewer people with higher age digits, especially at older ages. That is why it is called the "blended" method. Moreover, Myers' Index covers persons aged 10-89, Whipple's Index only persons aged 23-62. Thus, I would recommend using Myers' Index rather than Whipple's Index for American Indian population data. To eliminate age misstatement, populations are often grouped into 5 year age intervals, from 0-4, 5-9, etc. Unfortunately, 5 year age groups do not always eliminate enough age misstatement because, for example, the 20-24 age interval may include persons actually ages 17-19 who have had their ages elevated to 20, and may exclude persons 22-24 who have been elevated into the 25-29 age group. In order to get around this, Myers has devised a measure of residual age heaping which determines

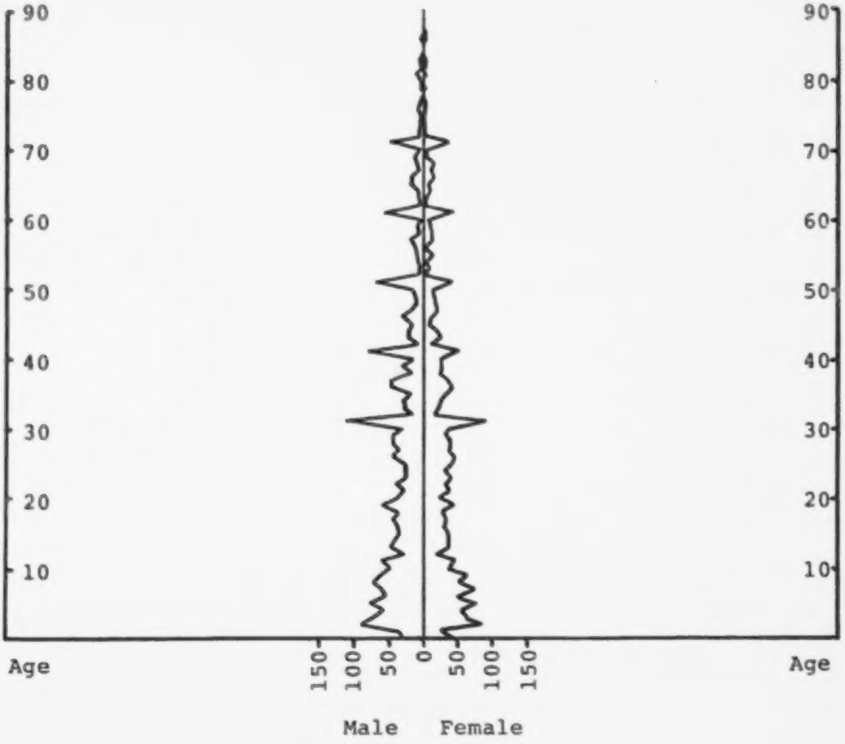

FIGURE 1

PIMA AND MARICOPA POPULATION BY
SINGLE YEARS OF AGE, 1895

the best end digits for 5 year age intervals (Shryock and Siegel 1973:211). Thus one might reduce age misstatement most by setting up intervals of 0-3, 4-8, 9-13, etc. For a single census this may be satisfactory, but if comparisons are to be made with other censuses it becomes difficult to compare, as an example, 0-3, 4-8, 0-13, etc. with 0, 1-5, 6-10, etc.

That residual age misstatement may still be high even when age data are grouped into 5 year intervals should be evident from the "enumerated population" columns of Table 5, showing Pima and Maricopa population by age for 1860. Notice the heaping in the intervals ending in 0-4 for ages 40-69.

In order to further reduce age misstatement, one may use techniques of "smoothing" or "graduation" which redistribute persons from one age interval to another. I did this for the 1860 Pima- Maricopa population using 3 such methods: quadratic interpolation (Shryock and Siegel 1973:223-224), the Carrier-Farrag method (Carrier and Farrag 1959), and the United Nations method (United Nations 1956). The results are shown in Table 5. Although some improvement occurred (limited to certain age intervals), I was still not satisfied with the results. There still appear to be too many males 25-29 and females 20-24. My suspicion is that the enumerator estimated the age of too many males as 25-29 and too many married females as 20-24, because 25 is an extremely frequent age for males in the single year age distribution and 20 and 24 are extremely common ages for females in the same age distribution (Meister 1975:603-618). Thus, if a man was relatively young and married, the enumerator appears to have estimated his age as 25; the wives of these men were presumably assumed by the enumerator to be younger than their husbands, and their ages were estimated as 20 or 24.

Another problem with applying interpolation methods to Pima-Maricopa age data for 1860 is that the interpolation methods assume a decline in numbers throughout the age distribution, and while I think that 1860 Pima-Maricopa age distribution should be somewhat more regular than in Table 5, the interpolation methods perhaps assume more regularity than is justified in this case, which, after all, is a relatively small population.

TABLE 5

GRADUATION OF PIMA AND MARICOPA COMBINED
1860 CENSUS POPULATION
AGE DATA BY VARIOUS METHODS

	Enumerated Population		Quadratic Interpolation		Carrier-Farrag Method		UN Interpolation Method	
Age	Male	Female	Male	Female	Male	Female	Male	Female
0- 4	413	377	....	....	....	....	....	....
5- 9	208	193	....	....	....	....	....	....
10-14	196	143	....	....	....	....	167	128
15-19	119	118	152	187	151	188	143	150
20-24	176	252	143	183	144	182	166	214
25-29	190	174	171	161	172	163	184	190
30-34	144	125	163	138	162	136	150	125
35-39	120	97	126	101	126	100	123	98
40-44	107	83	101	79	101	80	94	79
45-49	49	59	81	71	82	73	72	67
50-54*	92	68	60	56	59	54	66	55
55-59	21	21	38	35	37	34	42	35
60-64	39	36	22	22	23	23	26	27
65-69	10	15	12	14	10	13	15	18
70-74	9	8	7	9	9	10	11	9
75-79	24	12	15	9	17	10	....	....
80-84	4	3	13	6	11	5	....	....
85-89	1	2	....	....	....	....	....	....
90-94	2	....	....	....	....	....	....	....
95+	1	1	....	....	....	....	....	....
Total**	1,925	1,787	1,104	1,071	1,104	1,071	1,259	1,195

SOURCE

USOC (1860) for enumerated population.

NOTE

See Appendix A for description of methods of graduation

* Enumerated population excludes one person of unknown sex for this age group.

** Of figures shown in column.

One can get a reading of the reliability of an age distribution by using the United Nations Accuracy Test, which classifies age data as "reasonably reliable," "fairly reliable," or "quite unreliable" (United Nations 1952). Needless to say, the original Pima-Maricopa 1860 age distribution is "quite unreliable." As a last resort, one could use 10 year or larger age intervals to attempt to reduce inaccuracy in age data (such as in Table 6), but the larger the interval, the less detailed the information conveyed.

If there are two or more age distributions to compare, a much more powerful means can be used to assess accuracy of age statement and enumeration. This method is birth cohort analysis. Through this method, one can determine whether age bulges and gaps are consistent over time or peculiar to only one census. In order to do this, it is necessary to treat the age groups in each census as birth cohorts; that is to say, to compare, for two censuses, the number of persons who were born at the same time. For example, as shown in Table 7, persons aged 45-49 in 1890 (shown at the bottom of the table) were born between 1 July 1840 and 30 June 1845. These same persons were 50-54 in 1895, and the number in this birth cohort at each census can be compared.

In doing birth cohort survival analysis, one expects that the ratio of the number in the cohort when older compared to the number in the same cohort when younger will be less than 1, unless there is immigration. This measure is known as the cohort survival ratio, and it is also expected to be lower for older age groups. There is no good evidence for migration to the Gila River and Salt River Indian Reservations for 1890-1895; in fact, there was population decline because the Pima and Maricopa were losing their water to white farmers and some Indians were starving, while other fell to diseases that they could have resisted, were they better fed. If anything, there was migration away from the reservation, in search of employment (Meister 1975:195-206). Furthermore, the figures in Table 7 purport to represent the de jure (enrolled) Pima-Maricopa population, and thus should take into account any migration, although in practice this is not the case.

TABLE 6

PIMA DISTRIBUTION BY BROAD AGE GROUPS
1890, 1895, and 1910

	1890		1895		1910	
	Male %	Female %	Male %	Female %	Male %	Female %
0-19	47.5	43.3	44.5	43.1	49.7	50.7
20-50	47.6	52.2	40.7	43.4	35.7	34.1
50	4.8	4.4	14.8	13.5	14.4	14.8
Unknown	0.1	0.1	0.1	----	0.2	0.4
All Ages	100.0	100.0	100.1*	100.0	100.0	100.0
N =	2,274	2,144	2,189	2,077	2,198	2,038

SOURCES

1890:	Crouse (1890b)
1895:	Young (1895b)
1910:	USBC (1915: Table 48)

*Does not add to 100.0 because of rounding error.

TABLE 7

PIMA AND MARICOPA COMBINED POPULATION BY AGE AND COHORT SURVIVAL RATIOS, 1890 AND 1895

Birth Cohort July 1-June 30		Age at Census	Male	Female	Age at Census	Male	Female	Observed		Expected	
								Male	Female	Male	Female
1890	1895	......	....	....	0-4	281	280	....	....	....	....
1885	1890	0-4	415	384	5-9	322	322	.776	.839	.786	.789
1880	1885	5-9	284	226	10-14	217	180	.764	.796	.942	.935
1875	1880	10-14	277	203	15-19	208	173	.751	.852	.944	.935
1870	1875	15-19	184	177	20-24	162	170	.880	.960	.922	.918
1865	1870	20-24	191	267	25-29	194	200	1.016	.748	.902	.903
1860	1865	25-29	211	243	30-34	206	198	.976	.815	.889	.891
1855	1860	30-34	276	312	35-39	158	165	.572	.529	.871	.880
1850	1855	35-39	151	149	40-44	148	135	.980	.906	.848	.871
1845	1850	40-44	198	143	45-49	77	80	.389	.559	.824	.863
1840	1845	45-49	50	43	50-54	103	74	2.060	1.721	.793	.842
1835	1840	50-54	91	48	55-59	51	50	.560	1.042	.752	.802
1830	1835	55-59	23	12	60-64	75	71	3.261	5,917	.695	.738
1825	1830	60-64	38	22	65-69	55	58	1.447	2.636	.614	.653
1820	1825	65-69	9	16	70-74	62	49	6.889	3.063	.518	.554
1815	1820	70-74	17	21	75-79	10	6	.588	.286	.396	.426
1810	1815	75-79	7	7	80-84	12	4	1.714	.571	....	....
(1805)	1810	80-84	14	13	85+	1	4	.059	.235	....	....
Before	1805	85+	3	4		Included Above		....	....	....	....
Unknown Age		......	2	2	......	1	....	....	....	....	....
All Ages		......	2,441	2,292	......	2,343	2,219	....	....	....	....

SOURCES

Tabulated from Crouse 1890b); Young (1895b). Expected cohort survival ratios calculated from United Nations (1967:81).

Thus, there is something wrong when the observed cohort survival ratios in Table 7 exceed 1, which occurs in most of the cohorts of 1810-1845. In the 1890 age distribution, there are bulges at 30-34, 40-44, 50-54, 60-64, and 70-74. Yet in 1895, these bulges do not remain with the corresponding cohorts of 1855-1860, 1845-1850, 1835-1840 .... However, the 1840-1845 cohort is larger in 1895 than 1890, as is that of 1830-35. Thus, there is a pattern of cohort survival ratios which starts with 1810-1815 and ends with 1860-1865 in which cohorts with ages ending in 0-4 in 1895 are larger than in 1890 -- to me, obvious age misstatement with heaping at 0. The complement of this pattern is that cohorts with ages ending in 5 in 1895 have much lower survival rates. The use of cohort survival ratios supports the idea that bulges in age groups in the 1890 census, beginning at least with 30-34 and up, do not represent some factor which in the past decimated persons of certain age cohorts, but rather age misstatement with heaping at 0.

Furthermore, one can learn something about relative underenumeration in the 1890 and 1895 census rolls through the use of cohort survival ratios. Most age intervals 50 and over in 1895 have cohort survival ratios exceeding 1. This implies that either older persons were more greatly underenumerated in 1890 or more greatly overenumerated in 1895. I feel that the former is much more likely. Females also have higher cohort survival ratios than males in many of these age groups, so it would appear that females were more greatly underenumerated than males in 1890, or less likely, that females were more greatly overenumerated than males in 1895.

Thus, the population of 1890 should be larger for age groups 40 and above. One way to correct for this type of underenumeration is to use expected cohort survival ratios which are based on a stable population, and those shown in Table 7 assume that life expectancy for males is about 18 years and for females about 20 years (United Nations 1967:81). Dividing each 1895 cohort population by its expected cohort survival ratio produces an estimate of the 1890 population for that cohort.

If all that is available is a distribution by broad age groups, as shown in Table 6, one can still do a cohort survival analysis, or even compare the percentage of the total population represented by each age group in order to get a better idea of age misstatement and underenumeration.

In Table 6, the proportion of the 1890 population over 50 is quite small compared with 1895 and 1910. Moreover, 1895 and 1910 are similar. This suggests underenumeration of older persons in 1890, which was further confirmed by the above cohort analysis for 5 year age groups. On the other hand, the low figures for persons 0-19 in 1895 suggest underenumeration in that year in that age group.

Thus, comparisons of age distributions, especially through means of cohort survival analysis, are a powerful means of detecting age misstatement and underenumeration, and consequently in assessing the accuracy of population data. In these and other ways, population data can be assessed for accuracy and sometimes even adjusted to hopefully better reflect the real population. Although evaluating population data for accuracy takes time, in the long run it will produce better ethnohistorical demographic studies, and this is well worth the effort involved.

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PLANTATION MAPS AS SOURCES FOR THE STUDY OF WEST INDIAN ETHNOHISTORY

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The general characteristics of maps as sources for the study of ethnohistory, and the techniques appropriate to their analysis, are dealt with in this chapter. The focus will be on a particular class of cartographic evidence, the cadastral map. Maps of individual landholdings, cadasters, provide valuable information regarding the spatial organization of settlement within their boundaries, and thus give clues to the principles which governed cultural forms observed at a regional level. To demonstrate the potential of this type of evidence, maps of West Indian plantations will be discussed in detail, most of the examples coming from Jamaica in the eighteenth and nineteenth centuries. Plantation units, particularly during slavery, were in many ways self-contained communities, with relatively large populations, often compared with villages by contemporary observers. The general principles of analysis outlined here are equally applicable to maps of other types of landholdings, regardless of size and economic organization, and regardless of the nucleation or dispersion of settlement.

THE NATURE OF PLANTATION MAPS

Purpose

In order to assess the value and reliability of plantation maps as ethnohistoric sources it is essential to establish the purpose for which they were produced and the capacity of the map maker to provide accurate information. Although some West Indian planters had maps of their properties made for purely decorative purposes, they generally preferred naturalistic pictorial representations to hang in their halls. The majority of the maps which have survived were drawn to record changes in landownership. The cost of surveying a large plantation was usually justified only by the need for an accurate plan of its boundaries.

The fact that most plantation maps were intended to portray ownership changes is important for two main reasons. First, it means that whereas the external boundaries may be drawn as accurately as prevailing surveying techniques permitted, the internal features (field patterns, buildings, routes, and so on) are likely to be shown much less precisely because they were not crucial to the map's purpose. Since the ethnohistorian will generally be most interested in information relating to the plantation's internal features, it follows that any assessment of a map's accuracy must distinguish carefully between its overall shape and dimensions, and the internal elements. In cases where legal ownership was in dispute, there may be distortion in the boundaries, as Barrett (1970:35) found in his study of Mexican sugar haciendas. But such distortion seems to have been relatively rare in West Indian plantation maps (Illustration 1).

Second, since many plantation maps originated during ownership changes the evidence will often date from a period of instability or transition. The nature of this instability may be of ethnohistoric significance (if, for example, it reflects social upheaval) or it may simply be the product of biological events (such as the death of an owner or his marriage). In any case, the fact that many plantation maps provide a cross-section through a period of transition can prove a bonus to the ethnohistorian, since it may be possible to reconstruct patterns of change from a single map, rather than depending on the survival of a series.

SURVEYING TECHNIQUES

Most West Indian plantation maps were produced by professional surveyors. Some of these surveyors were employed by the imperial governments, but the majority worked on a commercial basis. The basic method used was compass and chain survey. For Jamaica, this is known because a large number of surveyor's field books are preserved along with the resultant maps, in the National Library of Jamaica. Chaining stations can be identified on many cadastral maps, particularly those produced after 1800, being shown as small circles connected by straight lines (Illustrations 6 and 9, below). Traversing is a less accurate method than triangulation, but was employed fairly widely in heavily wooded areas where sighting was impeded.

Virtually all of the West Indian plantation maps for the period before 1850 are plane, giving no data on relative elevation. The failure to level plantation sites accurately resulted in distortion wherever the land was broken or steeply sloping. Such distortion, especially in maps from the period before 1750 when cruder surveying techniques were frequently used, can make it difficult to identify precisely historic sites and features on modern topographic maps and aerial photographs, and hence to find them on the ground. But after about 1800 a very high level of accuracy was often achieved, at least in terms of the plantation's external and field boundaries.

Coverage and Sources

The available map evidence varies considerably within the Caribbean. By far the largest known collection of plantation maps is that stored at the National Library of Jamaica, but it has been catalogued for only three parishes. This collection owes its existence to the work of Thomas Harrison, who carried out the first complete cadastral survey of Jamaica in the later nineteenth century, and acquired original plantation maps, or copies of them, to facilitate his work. These maps, along with numerous surveyors' field books, date principally from 1770 to 1860, though a few earlier maps have survived. Plantation maps are also to be found in plat books, deeds, and plantation journals, in the public repositories of Jamaica. Relatively few are known to be in private hands.

Other West Indian territories are far less well served than Jamaica. Again, the coverage for the period before 1770 is relatively poor. In addition to maps preserved among series of deeds, local survey departments often have a small

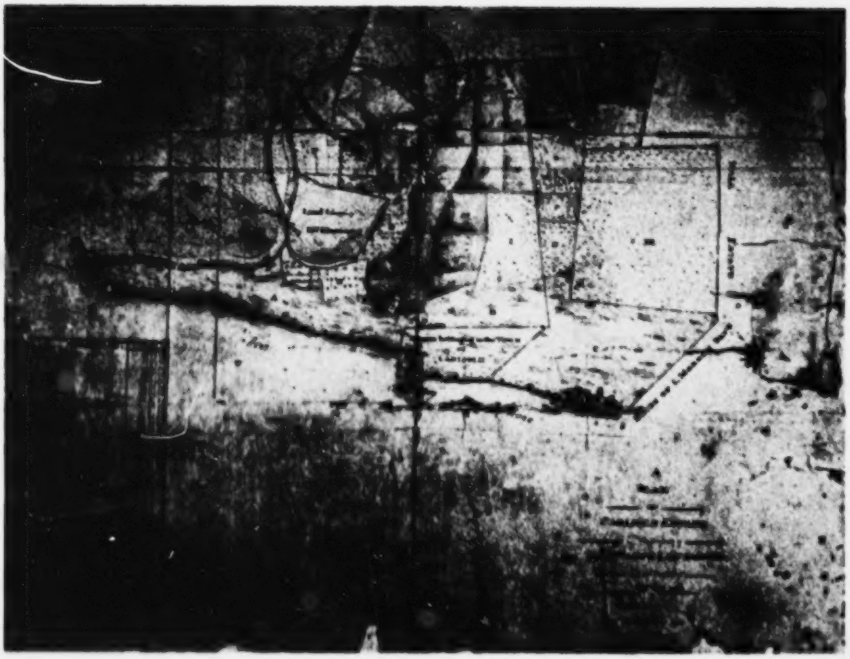

Illustration 1

Carlisle Estate, Vere Parish, Jamaica, 1818

SOURCE: From the National Library of Jamaica (reproduced by permission)

collection of historical maps. For the Anglophone Caribbean, the British Library and Public Record Office (London) have perhaps the most valuable map collections outside the region, but their strength tends to be in small-scale maps of entire islands or colonies rather than in maps of individual plantations. The latter exist in some documentary series (such as the papers of the Encumbered Estates Court, at the Public Record Office), but these are less accessible because they are not catalogued in such a way as to facilitate the location of map evidence.

In general, the available map evidence tends to be weighted somewhat to the larger plantation units. This means that many more maps exist for plantations producing sugar than of those cultivating the minor staples, such as coffee, cotton, indigo or pimento.

Whereas maps of entire islands were often printed for sale, and so survive in relatively large numbers, maps of individual plantations were rarely published. Modern historians have included the occasional plantation map in their writing on the Caribbean (Oliver 1896:II, 166, 308, 366; Volders 1966:94; Craton and Walvin 1970:109; Sheridan 1974:226; Handler and Lange 1978:47-48; Rodney 1979:35), but these have generally been redrawn. The most useful published collection is that of Buisseret and Tyndale-Biscoe(1969), which reproduces a number of historical plantation maps for Jamaica, together with matching aerial photographs, though with minimal commentary.

ANALYZING PLANTATION MAPS

The pictorial character of map evidence seems often to have encouraged ethnohistorians to believe that it can be exploited in a holistic and intuitive manner, that the essential message of the map can be grasped almost at a glance. The potential of map evidence has thus been largely lost. Only through attention to detail, reading the map with a palaeographer's acuteness, can its full value be realized.

Plantation maps have been used in Jamaica (Higman 1974) and Barbados (Handler and Lange 1978:46) to locate potential archaeological sites, but otherwise they have most often been used in a strictly illustrative fashion, to show the layout of a particular unit rather than; to reach any general conclusions about the nature of plantation society (Craton 1978:19). On the other hand, many discussions of West Indian plantation layout ignore map evidence completely (Augier et. al 1960:79) 81; Patterson (1967:52-56). Although Brathwaite (1971:134) argues that plantation layout was functional and in no sense "chance or haphazard," and Sherlock (1973:139) remarks perceptively that the plantation's buildings "made up a compact unit which expressed in stone, timber and thatch the values and the structure of plantation society," neither of these writers describes the spatial economy of the plantation in any but the vaguest terms. It is necessary to do more than simply list the buildings and land use types. The study of plantation society can be advanced through the analysis of plantation layout only if particular examples are related to their physical environments, compared over time, and measured against the ideal models of spatial economy that the planters had in their heads.

Before attempting to compare any plantation map with ideal models, however, it is essential to establish its date and to understand the conventional symbols it may employ (Higman, In press d.).

Dating

Often, the date of survey is stated explicitly on the plantation map itself. But sometimes maps were redrawn incorporating new information into a relatively ancient survey, and omitting features that had appeared on the original. In such cases, internal evidence will often give clues to the nature and timing of these changes. For Jamaica, the plantation maps collected by Thomas Harrison in the later nineteenth century were often copied, simplified or updated, so that the dating of internal elements would be subject to error, had Harrison not drawn attention to them in explicit notes.

Plantation maps lacking explicit dates can be dated approximately on the basis of internal and external evidence. In some periods, it was common to watermark paper with its date of manufacture, thus providing a terminus post quem for the map. Some of the surviving Jamaican maps were repaired with datable newspaper, giving a terminus ante quem. Where changes in the ownership of a plantation are stated, the map may be dated precisely by tracing the relevant deed. More approximate dates can be established from the owner's name (using tax roll lists), and the limits can be narrowed if the names of the bounding landowners are also given on the plantation map. Additional information can be derived from the name of the surveyor (generally given on the map itself), but the dates of operation of particular surveyors must be based on the study of a large number of examples; this method could certainly work for Jamaica, but the sample is probably too small elsewhere in the Caribbean. If none of these types of evidence are found, rough dates can be established on the basis of palaeography and cartographic style.

When absolute dates cannot be attributed to particular maps it is often useful to order them in a relative chronology, so as to trace long- term changes in plantation layout. This is particularly important if a series of maps exists for a single plantation.

Conventional Symbols

Many West Indian plantation maps contain a legend or key to the features depicted, but wherever this is deficient it is necessary to establish the meaning of any symbols employed. Most often, the key will consist only of a list of numbers, identifying the land use of particular areas of the plantation and stating their size. For example, the map of Edward Long's Lucky Valley Estate in 1769 (Illustration 2) has a list of "references" to 48 numbered units within the plantation, but identifies the use of only 45 of these. The land use of the remaining three units, all recently "bought" from neighboring planters, can be established: by comparing the conventional symbols placed on them. Thus, unit 46 was divided between woodland and provisions, 47 was in pasture, and 48 in provisions. But the use of Rules Plantation, also recently purchased by Long, cannot be identified in this way.

The conventional symbols used on the map of Lucky Valley were common to many West Indian plantation maps of the period 1750-1850, so it is possible to establish the land use of plantations lacking keys, with a fair degree of confidence. Naturalistic symbols were most often employed for tree crops (coffee, pimento, plantains) and woodland. Small-scale patchwork patterns are a good indicator of food crops ("provisions") and "Negro grounds" (land allotted to slaves for independent cultivation). Ornamental gardens attached to the master's great house, on the other hand, tended to be distinguished by diagonal paths radiating from a central circle. Many plantation maps were coloured, providing clues to the distinction between cane and grass, for example. What is perhaps anomalous is that the major crop (sugar cane) was sometimes left blank, as is the case with the British Ordnance Survey topographic maps (Dury 1960:97-98). But the major crop was generally grown on fields of uniform size and shape, whereas other uses tended to occupy irregularly patterned units.

A basic principle in map analysis, as in aerial photography and archaeology, is that man-made features tend to regularity in shape, whereas natural features are relatively irregular. Thus rivers and streams on the Lucky Valley map are distinguished by sinuosity and variable width, whereas the gutters carrying water from the rivers to the mill and still house were straight, sharp-angled and of constant width. Roads and paths tend to follow the natural contours of the land but are distinguished by their regularity of width. Often, as on the Lucky Valley map, they were marked by dashed lines: parallel sets for roads, and single lines for bridle and walking paths. Field boundaries other than rivers are distinguished by their regularity and their tendency to enclose spaces.

The identification of buildings, of particular importance to the ethnohistorian, is somewhat troublesome. Early maps often used pictorial representations of facades or oblique perspectives, but most of those produced after 1750 merely showed square, rectangular or circular modules, heavily shaded. Thus function must often be determined from scale, shape, location and layout. On the map of Lucky Valley only two buildings are named, the sheepfold and the mill, the latter also being identified by a stylized water wheel. The slave village ("Negro houses") is distinguished and two factory areas ("old works" and "yard and buildings"). The old works, abandoned by 1769, had a cattle-powered mill, shown as concentric circles, but the precise functions of the other two buildings is uncertain. At the active works, more of the

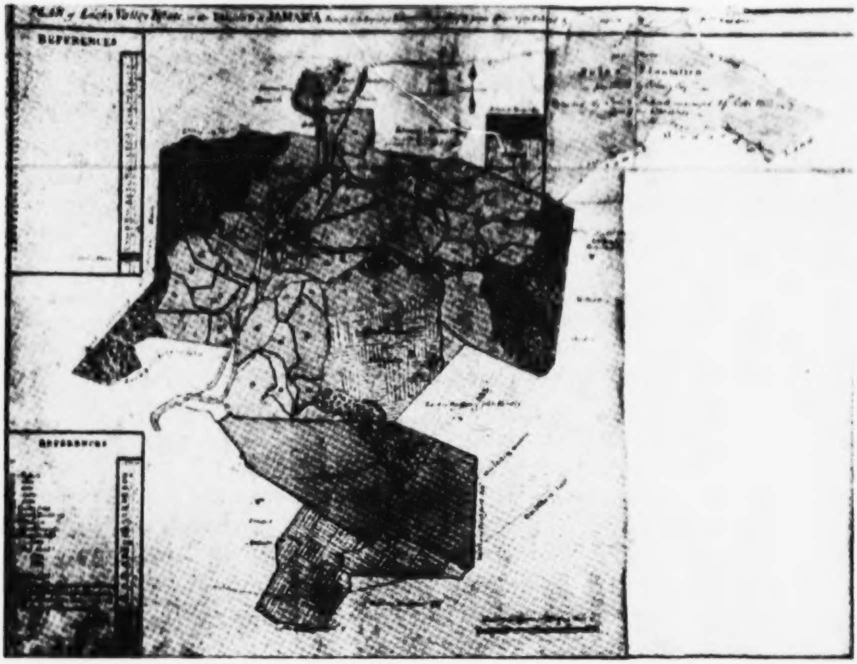

Illustration 2

Lucky Valley Estate, Clarendon Parish, Jamaica, 1769

SOURCE: From the British Library, London (reproduced by permission) buildings can be identified, on the basis of shape and relative location (the mill and still, the boiling and curing houses immediately south of the mill, and the two elongated trash houses to the west). But the other smaller buildings in the works yard (shops for carpenters, coopers and blacksmiths; residences for overseers and other whites; and stables and cattle pens) cannot be identified, individually, with confidence.

Field Names

The names given to particular fields or plantation areas generally were derived from natural features, associated structures, past uses, or personal names. Thus they may provide additional information about land use patterns. In Jamaica, fields called "pieces" were always in cultivation, generally under cane, whereas pastures rarely had generic labels attached to their field names, and wood and wasteland were unlikely to be named at all. Thus a simplified picture of land use can be obtained directly from naming patterns. The generic labels in plantation names are similarly useful in providing an index of land use. In Jamaica, "estates" always produced sugar, "plantations" produced coffee, pimento or indigo, "pens" raised livestock, and "settlements" were diversified units; maps of these labels provide an accurate picture of the island's overall land use pattern in the early nineteenth century (Higman 1976:30-34).

Caution is necessary, however, because many field names derived from nearby features rather than from activities occurring within their boundaries. For example, "Negro house" or "Yaws house" may mean only that these fields were located close to the slaves' village or the yaws hospital, and in fact fully planted in some crop (Illustration 3). This kind of evidence certainly gives clues to the location of structures, but their precise sites will remain uncertain unless other kinds of data are available. For example, a map of Carlisle Estate (Illustration 1) enables identification of the still house, smith's shop and great house within the works yard through the location of adjacent named fields. In other cases, a series of maps may demonstrate that a field retained its name after its use was changed. At Roehampton, for example, a map of the plantation in 1812 (Illustration 6) shows that the cane field called "Negro house" overlapped the area actually occupied by slaves' houses in 1791 (Illustration 5), before the houses were moved to a new site. Thus it may not always be easy to distinguish between naming by propinquity and naming by former use (Handler and Lange 1978:45).

Eponymous field names provide intriguing possibilities for analysis. Many fields were named after proprietors, overseers, other white employees, and slaves. Tracing the originals of these eponyms might not be very fruitful, but it could certainly be interesting to make long-term comparisons between places with differing White/slave ratios as regards the proportion of slave derived names. At Carlisle Estate, for example, a majority of the eponymous field names might be slave derived: all those using first names (Bob's, Peter's, Isaac's), or town names (Leicester, London), or African day-names (Quaco) (Illustration 1). By contrast, only a handful of Jamaican "plantations" had African names. But whereas plantation names may enable identification of the regional and cultural origins of colonists, field names seem unlikely to be equally helpful. Their principal value lies in their value as indicators of use patterns.

INTERPRETING PLANTATION LAYOUT

The methods of analysis outlined thus far are capable of providing direct answers to a number of questions of ethnohistoric significance, but their real utility lies in their ability to facilitate the understanding of plantation layout, and hence the interpretation of cultural processes in the West Indies before and after the abolition of slavery (1838). In order to go beyond the listing of plantation features, it is necessary to consider the theoretical possibilities, and the planter's ideal model of spatial economy.

Ideal Models

Laborie (1797:37) advised planters establishing new coffee plantation "to throw upon paper a general plan of distribution," and Roughley (1823:183) told the new sugar planter that "a well-contrived plan of the buildings, their relative, convenient, and appropriate situations, one to the other, should be digested, and laid out on a piece of paper, of a size sufficient to have the whole delineated upon it." Thus the plantation map may have preceded the reality, in some instances. Probably such explicit theoretical thinking was more common in the nineteenth than in the seventeenth century, as order and symmetry became increasingly valued concepts, along with the growing relationship between the Industrial Revolution and interventionist social engineering (Debien 1974:219-234; Moreno Fraginals 1978: II, 68-83; Rosenau 1970; Klingender 1972). Hence, it may be possible to trace changes in planter attitudes and ideology through the patterns recorded in plantation maps.

The spatial economy of the plantation can be viewed as a variant of the movement-minimization problem (Chisholm 1962; Haggett 1965: 161-182; Hodder and Orton 1976:229-236). In order to maximize the unit's profitability, the planter attempted to minimize the costs (in time, effort and capital expenditure) of moving people and things within its boundaries. On sugar plantations, the most costly operation was the transporting of cut canes from the field to the factory, and indeed this set an upper limit on the optimum size of plantations until the use of steam railways became common in the later nineteenth century. The crop (harvest) period was crucial on all types of plantations. Thus the sugar or coffee planter always recognized "the great utility of a central situation to place the manufacturing houses upon" (Roughley 1823:182). The concentration of labour demands and supervisory tasks in the factory area meant that the slaves' houses and the master's great house would also be centrally located, minimizing movement costs.

The planter's ideal model of spatial organization can be best understood by introducing a few simplifying assumptions. Consider a plantation located on a homogeneous plain, and circular or hexagonal in shape. The land use and settlement pattern would then be that shown in Illustration 4. Few plantations achieved this level of symmetry, of course (Laborie 1797:37), but the reasons for the deviations seen on actual plantation maps are best understood by comparing them with the ideal model. The compromises, or superior choices, which the planters made, due to variations in topography and soil type, throw considerable light on the relative importance of the various principles which determined the spatial patterning of the plantation community.

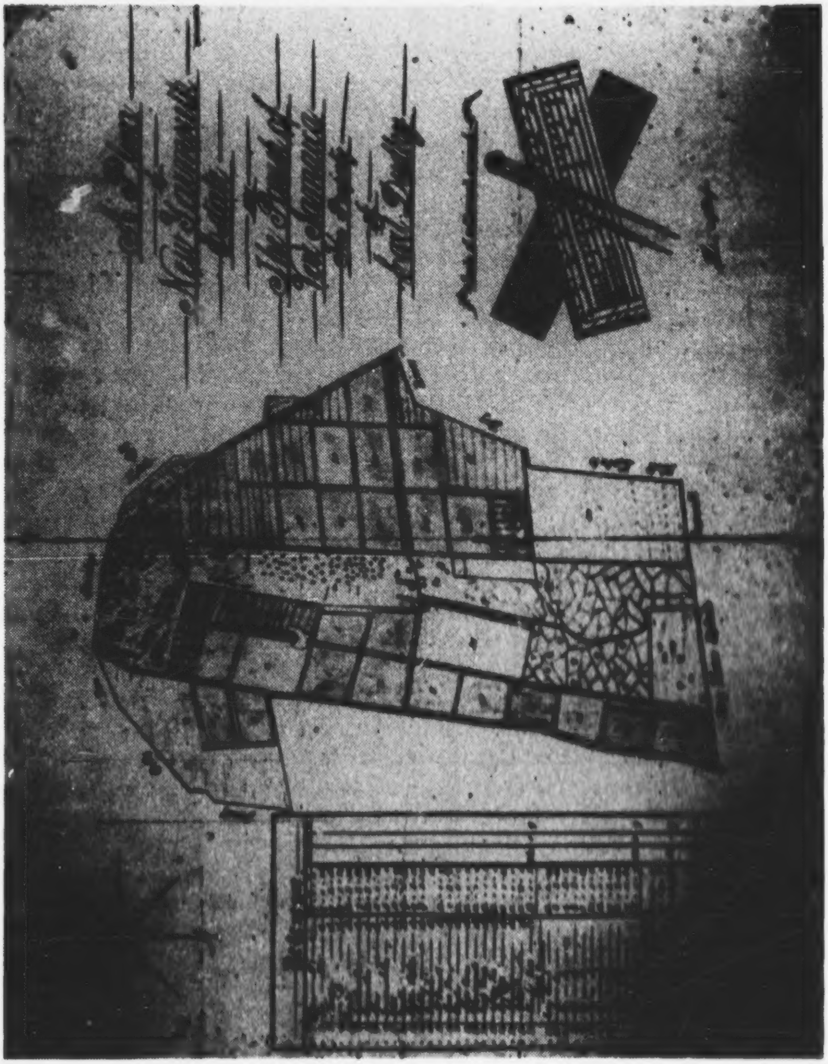

Illustration 3

New Yarmouth Estate, Vere Parish, Jamaica, n.d.

SOURCE: From the National Library of Jamaica (reproduced by permission)

Examples

One Jamaican plantation the layout of which approximated the ideal model was New Yarmouth (Illustration 3). Located on a gently sloping alluvial plain, it was compact in shape, and used an animal-powered mill (thus avoiding the locational constraints of water and wind power). The works and slaves' houses were centrally located, and the majority of the cane pieces clustered around the mill, with food crops (corn and "Negro grounds") forming an intermediate zone, and common pasture and "ruinate" (abandoned cultivation) being most distant. The most obvious exception to these rules was the location of a large pasture planted in Guinea Grass very close to the mill. This resulted from the need to pasture the large number of working animals required for haulage and turning the mill at a central site.

Carlisle Estate, situated six miles south of New Yarmouth, occupied a coastal site and also suffered encroachments from the ever-changing course of the Rio Minho in its floodplain (Illustration 1). No part of the plantation rose 50 feet above sea level. But, although Carlisle was compact and homogeneous, its works were located at the estate's northern boundary rather than in the centre of the cane pieces. This site was chosen to take advantage of small-scale variations in topography, enabling the windmill to better catch the breeze. The slaves' houses were located close to the works, but far from their swampy provision grounds. But, taking the location of the works as given, certain zonal patterns did emerge fairly clearly: cane, corn, pasture, provision grounds, and mangrove, swamp and woodland. In 1818, a "Free Negroe Settlement" bordered the slaves' provision grounds on Carlisle Estate, and the free blacks had encroached on some (swampy) estate land.

Lucky Valley Estate (Illustration 2), twenty miles up the Rio Minho from coastal Carlisle, occupied a very different physical environment. The Works were about 600 feet above sea level, but the hills of Cretaceous shales and conglomerates enclosing the streams and their narrow alluvial valleys rose steeply to 1,500 feet within the estate's rather ragged boundaries. Yet the general principles of plantation layout were followed quite closely, with the works and slaves' houses located roughly in the centre of the original compact block, drawn to the west by the availability of water to turn the mill. What is particularly interesting about the map of 1769 is that concentric circles were superimposed on it, at quarter-mile intervals, and centered on the works. This demonstrates very clearly that the planter saw the works as the focal point of plantation life, and that he understood the movement-minimization problem. Although somewhat skewed, these concentric circles reflect the major land use zones of the plantation.

In order to interpret plantation layout, then, it is clear that deviations from ideal models will only become explicable if historical maps are carefully matched with topographic maps and aerial photographs. This process involves the reduction of each map to the same scale and overlaying them. An example follows.

Roehampton Estate was situated in one of Jamaica's white limestone regions, characterized by great local variation in topography, conical hills mixed with shallow depressions ("bottoms"). Thus the land use pattern in 1812 (Illustration 6) must be matched with a detailed topographic map (Illustration 7) in order to explain the attenuated shape of the cane pieces (shaded on the 1812 map) and the oddly circular pastures intervening. Only then will it be clear that sugar cultivation was pushed into all the relatively level interstices between the hills. The Roehampton example also illustrates the importance of knowing the original shape of the plantation. Thus in 1791 (Illustration 5) the works-great house-slave village complex was centrally located, with the slaves' provision grounds and wood land occupying the more rugged zones on the periphery. But additions to the estate lands between 1791 and 1812 created a less symmetrical layout. The cost of building meant that, even if the mill was animal-powered (as at Roehampton), the forces of inertia operated against relocation.

In all of the examples considered so far the plantation works, the great house, and the slave village formed a complex, all of the elements falling within a 500-yard radius. On some plantations, however, centrifugal forces outweighed the centripetal. Three examples from the parish of St. Thomas, Jamaica, are sufficient to suggest the range of possible variation (Illustration 8). At Golden Grove Estate the works and slaves' houses were located centrally, on a plain, but the great house (abandoned by 1788) perched

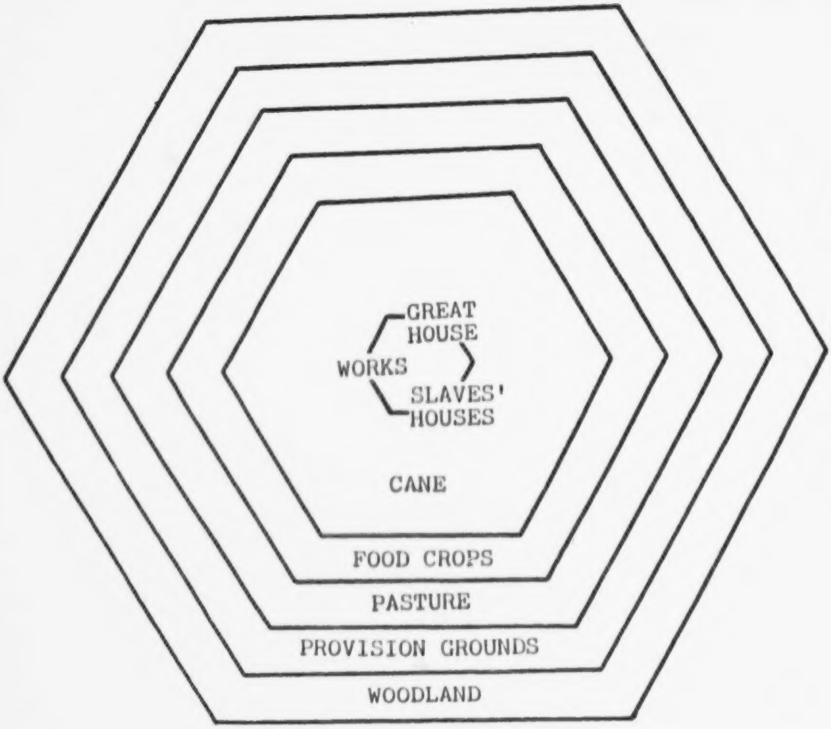
GREAT HOUSE
WORKS
SLAVES' HOUSES
CANE
FOOD CROPS
PASTURE
PROVISION GROUNDS
WOODLAND

Illustration 4

An Ideal Model of Plantation Layout

on a hill at a distance. At neighbouring Duckenfield Hall the works were similarly located, but the slaves' houses were on the hills bordering the plain. The same pattern occurred at Amity Hall, where the great house was sited separately on a distinct hill which actually penetrated the boundary of the adjacent plantation.

These exceptions are of particular interest because they throw light on the general rules. Wherever the planter was not an absentee owner, he placed his great house on a hill if the topography permitted. And wherever cane land was limited there was a tendency to locate the slave village at some distance from the works, if alternative sites existed. Similarly, expanding planters were likely to move slave villages from arable land to less valuable (often hilly) sites wherever possible: this change occurred at Roehampton between 1791 and 1812 (Illustrations 5 and 6). After emancipation this tendency was continued, many slave village sites being cleared for cane planting, and the estate labourers forced to live clinging to roadsides or beyond the plantation boundaries. Thus plantation maps can be used to compare the relative importance given by planters to the movement-minimization problem, their personal comfort and health, and the ability to ensure continued surveillance of the plantation and its labourers.

Slave Villages

As noted earlier, maps can be trusted to provide reliable information about the layout of elements within the plantation's boundaries, but must be treated cautiously as sources for data on the internal spatial patterns of the particular elements. One question of great significance for an understanding of the ethnohistory of the West Indian plantation is the extent to which planters intervened in the domestic lives of slaves. Thus it is important to attempt to use map evidence to establish the layout of slave houses within the village boundaries (as distinct from the location of the village within the plantation), since it provides many more examples of actual cases than any other data source. But some surveyors did no more than portray a symbolic scattering of houses, and the number of units shown cannot be taken seriously as an estimate of the actual number (Illustrations 3 and 5). Other maps show slave houses in straight lines, and it can be assumed that this was an

Illustration 5

Roehampton Estate, St. James Parish, Jamaica, 1791

SOURCE: From the National Library of Jamaica (reproduced by permission

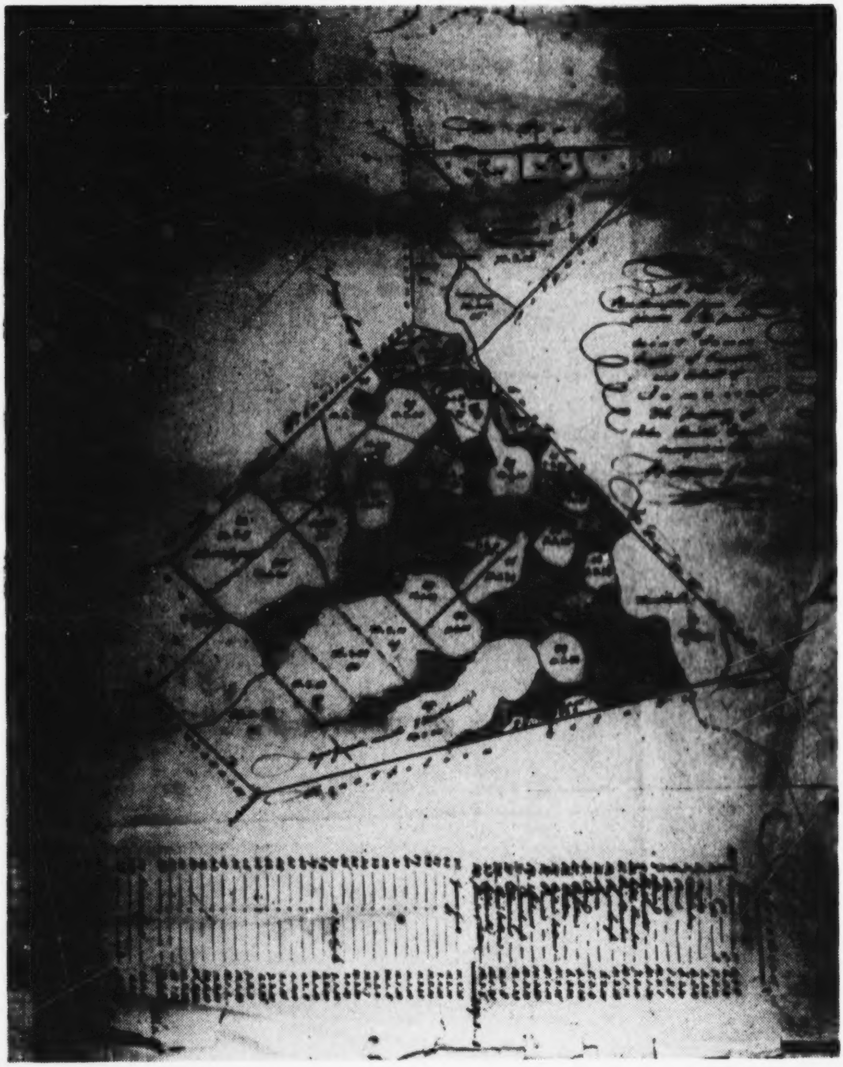

Illustration 6

Roehampton Estate, St. James Parish, Jamaica, 1812

SOURCE: From the National Library of Jamaica (reproduced by permission)

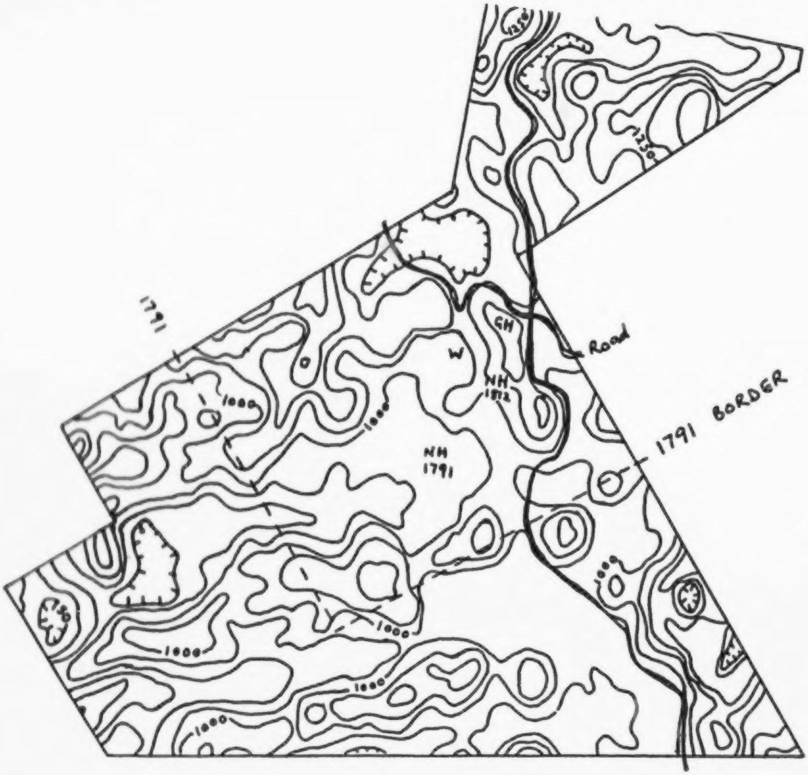
1250
1250
1791
1000
GH
W
Road
NH
1812
1791 BORDER
NH
1791
1000
1000
750
1000
1000
1000
1000

Illustration 7

Topographic Map of Roehampton Estate, St. James Jamaica

SOURCE: Contours based on 1:12,500 topographic map of Jamaica, Survey Department of Jamaica (1970).

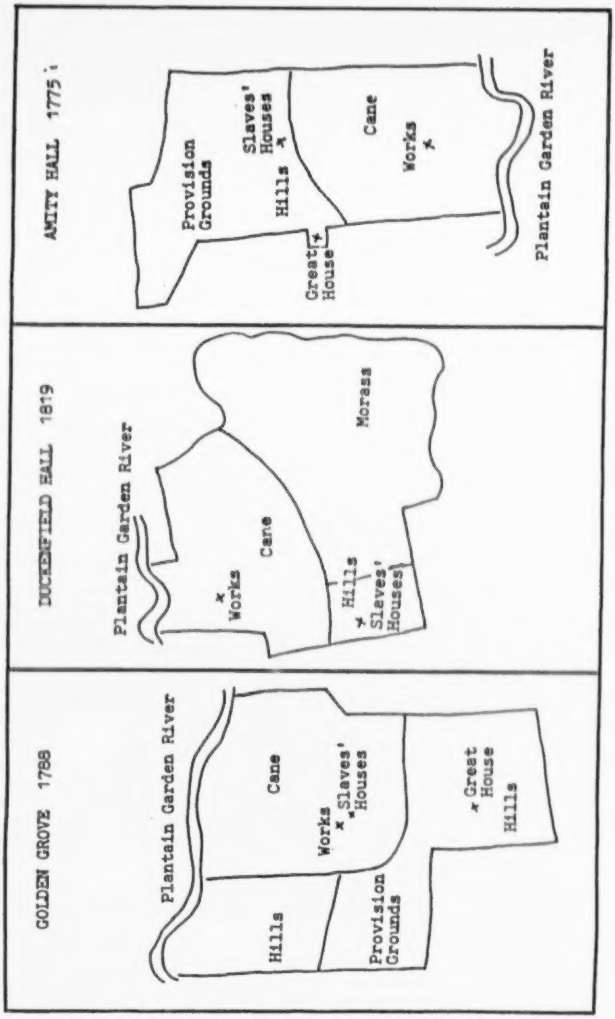
AMITY HALL 1775
Provision Grounds
Slaves' Houses
Hills
Cane
Works
Great House
Plantain Garden River
DUCKENFIELD HALL 1819
Plantain Garden River
Morass
Cane
Works
Hills
Slaves' Houses
GOLDEN GROVE 1788
Plantain Garden River
Cane
Works
Slaves' Houses
Great House
Hills
Hills
Provision Grounds

Illustration 8

Spatial Organization on Three Sugar Plantations,
St. Thomas Parish, Jamaica. (Sketches, not to scale)

SOURCE: Based on manuscript maps in the National Library of Jamaica, Kingston.

accurate representation of their layout, generally, even though the number of units might be incorrect. For example, the straight line pattern shown on the 1812 Roehampton map (Illustration 6) is confirmed as accurate by a pictorial representation made about 1820 (Patterson 1969:53), by the owner's verbal statement in 1832 (British Parliamentary Papers 1832:32-59), and by archaeological investigation (Higman 1974:41). But whereas the 1812 map showed 39 houses, and the picture 26, the owner claimed between 60 and 70. Again, the map and picture suggest that the houses were square, while the owner stated that they were 24 by 16 feet.

If the details of map data are incorrect, however, it remains true that wherever the layout of a slave village is shown as a straight-line pattern, this may be regarded as clear evidence that it was designed by the master. Thus even fairly crude plantation maps may be relied on to give an indication of the relative extent of planter intervention in slave settlements. An exception to this rule may be the 1769 plan of Lucky Valley (Illustration 2), on which the "Negro houses" are shown as four elongated, barrack-like structures. Maps of the estate in 1773 and 1816, and a picture produced in the latter year, all show the slaves' houses as scattered separate or "duplex" units. Thus the evidence of the 1769 plan must be treated skeptically, particularly because the written sources all suggest that barracks were extremely rare in the slave period, in Jamaica, and before 1820.

How then did slaves lay out their houses when not strictly regimented by the masters? Only the occasional plantation map can be trusted to answer this question with any precision. The plan of Carlisle Estate in 1818 (Illustration 1), for example, demonstrates clearly the existence of paths within the slave village and appears to identify quite precisely the location of individual houses, while suggesting the possible grouping of units into larger compounds or "yards" (cf. Higman 1974). After the abolition of slavery, some Jamaican planters sold the lands of the former slave villages, in small lots, and this process resulted in accurate mapping of the sites. An example of this type of map is that for Duckenfield Hall in 1846 (Illustration 9), obviously the product of chain surveying. Although this plan is far more detailed than the surviving maps of the same site in the slave period, it does demonstrate that those earlier maps were by no means figments of the surveyor's imagination.

The Duckenfield village map of 1846 is also of interest because it provides a good example of the possibilities for linking plantation maps with other kinds of evidence. Most importantly, the purchasers named on the map can be linked to names in the slave registration returns (manuscripts at the Jamaica Archives) and the estate's plantation records (at the Greater London Council Record Office). For example, these additional materials make it possible to identify John Tomlinson, the first person named in the list, as a sambo, born a slave on the estate in 1799, the son of Amba a black woman, and a mulatto father, and grandson of Lucia (who died in 1820, aged 77 years). Full integration of these materials would permit a close scrutiny of the transition from slave to free settlement and kinship patterns.

Architectural detail seldom appears on West Indian plantation maps. When it does, it must be treated with as much caution as data on the spatial organization of buildings. Oblique perspective views, plans, and facades are certainly of value as evidence of house form and fabric, but too often they suggest little more than stylized conventional symbols. They cannot be regarded as accurate representations of the structures on particular plantations. If a long series of architectural drawings is available, however, it may be used to trace secular changes in house form, assuming that even conventional symbols will change along with the reality. These remarks apply especially to plantation labourers' housing, but relate also to other estate buildings.

Another area of slave life which can be illuminated by map evidence concerns the "Negro grounds," which many Jamaican planters allocated to their slaves for the unsupervised cultivation of food crops. In some cases the maps do no more than indicate the total area devoted to these grounds, often undifferentiated from woodland and ruinate, so that the amount of land actually cultivated is uncertain (Illustration 6). Where there was more pressure on arable land, the grounds were generally smaller and the planters seem to have divided the plots on geometric principles (Illustration 1). But the patchwork patterns seen on some maps (Illustrations 2 and 3) must be interpreted cautiously, because they may be no more than generalized conventional symbols rather than accurate representations of the actual field layout. Only the occasional map of slave provision grounds was precisely surveyed, and even fewer state the names of the slaves allocated to each plot. Where the latter do exist, it is possible to determine the kinship of the slaves working different plots, by using written records such as those referred to above for Duckenfield.

Samples and Examples

Much can be learned from the study of individual plantation maps, but a great deal more can be extracted from a large sample, especially if the time-depth is considerable (Higman, In Press a,b,c). Such sampling permits a more intricate reconstruction of plantation communities. For example, it may enable the ethnohistorian to assess the extent to which planters were willing to modify their ideal models of plantation layout, and to test the hypothesis that during the Industrial Revolution they developed an increased desire to impose symmetrical, regimented spatial controls on the lives of their slaves (Debien 1974:219- 234; Moreno Fraginals 1978: II, 68-73). Plantation maps can also help to explain the responses of slaves to these changing controls.

But, because plantation maps were always the product of the planter class, they fail to give direct insight into the mental maps of the labourers, or the way in which the slave's space perception differed from the master's metric measure (Gould and White 1974; Wood 1978). Wherever possible, then, data obtained from plantation maps must be related to other types of evidence. Only if this complementarity is fully exploited will the potential of map analysis be realized. This conclusion, and the techniques of analysis discussed in this chapter, applies equally to maps of all types of landholdings. Indeed, the general principles are applicable to the study of a wide range of historic cartographic evidence of great value to the ethnohistorian.

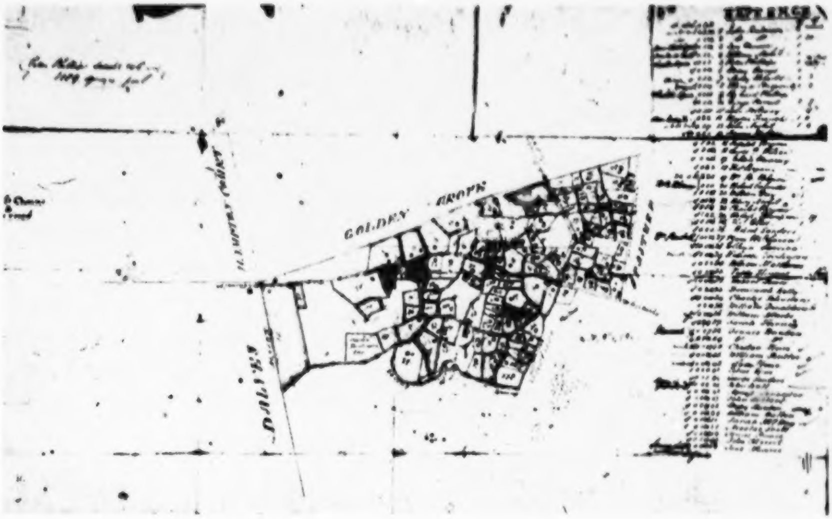
GOLDEN GROVE
REFERENCE

Illustration 9

Duckenfield "Negroe Houses and Yards", 1846
(St. Thomas Parish, Jamaica)

SOURCE: From the National Library of Jamaica (reproduced by permission)

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VISUAL ETHNOHISTORY:
PHOTOGRAPHS IN THE STUDY OF CULTURE HISTORY

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> We can obtain a sense of the people and places of the past from these images, what the people looked like and what they thought and valued. For in a very real way, to photograph someone or something bestows on that subject a significance that usually outlives the subject. In a sense, the act of photographing engenders a form of immortality on the subject by a kind of implicit preknowledge that some future spectator will look at the image (Sobieszek 1975:122).

Photographs are increasingly recognized for the cultural historical insights these visual documents can offer into the American and European past. Late 19th and early 20th century photographs are an equally bountiful, if only recently appreciated, source of cultural historical information on the kinds of societies traditionally studied by anthropologists.(1) Professional and amateur photographers, early ethnographers, missionaries, government agents, tourists, and settlers in native territories are among those who recorded images of now vanished ways of life. Their photographs of native societies cover a relatively brief span of time, beginning in most instances no earlier than the 1860s and often not until later than that. Nonetheless, the camera in many instances provided a visual record of a society prior to extensive acculturation and/or partially documented such changes. When used in tandem with other historical documents and combined with field research, the photographic record becomes a powerful medium for the study of recent periods of culture history. Reconstructing culture history and discovering its processes, however, come only after the photographs have been identified, dated, and the subtle and obvious biases of the photographic sample evaluated.

This paper is intended as an introductory guide to using photographs as documents in ethnohistorical research. The emphasis is on traditional, non-Euroamerican societies, with examples from my own research into North American (particularly Northwest Coast) Indian photographs, but the methods and procedures have much wider application.

LOCATING HISTORICAL PHOTOGRAPHS OF NATIVE PEOPLE

Most major ethnological museums have collections of historical photographs (in addition to artifact or "collection" photos) that are of anthropological value. A museum with a major ethnographic collection from the researcher's area of interest is more likely to have historical photographs from that ethnographic area than a museum with no collections from that locale. Museums, archives, and libraries located in the geographic area of the field research are important sources of photographs and often house more substantial and significant collections than larger museums elsewhere.

A number of reference works can point the researcher toward pertinent photographic holdings in museums and archives. The Inventory of Ethnological Collections (Hunter 1967) is a good general source for locating North American museums with ethnological collections (including photographs) from particular ethnographic regions. Wynar and Buttlar's Guide to Ethnic Museums, Libraries, and Archives in the United States is broader in scope, listing alphabetically by ethnic group the collections -- including photographs -- of libraries, archives, museums, and art galleries. Ash's Subject Collections, a guide to special collections in North American university, college, public and special libraries, lists photographic materials under the headings "photographers," "photographs," and "historical photography." Sources specific to visual materials include Robl's

Picture Sources 4, Seifried's Guide to Canadian Photographic Archives, and McQuaid's Index to American Photographic Collections. The latter, unfortunately, does not include a subject index. Particularly helpful are the guides to photo collections published by individual libraries. Harvard University Library's Photographs at Harvard and Radcliffe: A Directory (1984) and the Alaska State Library's A Guide to Historical Photographs in the Alaska State Library (1981) are two of several examples. The latter institution has made its photo holdings readily available to the public by putting a portion of its collection (8000 images) on microfiche. The fiche comprises the bulk of the "guide." The Smithsonian (National Anthropological Archives) and the Suzzallo Library at the University of Washington have also made available selected photo holdings on fiche.

One should also explore the archives of various governmental and religious agencies which have administered to the society under study. In North America, for example, Indian agents, Indian agency physicians, and missionaries were often also amateur photographers of Native American societies and their works can frequently be found in government and church archives. Photographs of a particular native society can usually be found in a wide range of repositories; Table 1 shows the various locations of several hundred photographs of Haida Indian culture taken in British Columbia and Southeastern Alaska between 1878 and 1920. In a more extensive survey, Scherer (1981) presents a compendium of 39 photo repositories of images of Subarctic Indians, listing for each entry the organization of archival materials, the number of images, and the tribes and selected photographers represented.

Beyond museum and archival research, field research may disclose important photographs. Often family photo albums belonging to the descendants of white settlers of an area or to natives themselves will contain images not duplicated in archival collections. Sometimes these works were made by local professional photographers, sometimes by a family member or other local amateur. Occasionally a native person will have recorded his or her culture with a camera; these images are particularly important because a photograph makes statements not only about the culture photographed but about the culture of the photographer as well. Peter Pitseolak, a Cape Dorset Eskimo, is perhaps the

TABLE 1

PHOTOGRAPHS OF HAIDA BY REPOSITORY

MAJOR ETHNOLOGICAL MUSEUMS:
- National Museums of Canada - Ottawa
- American Museum of Natural History - New York
- National Anthropological Archives, Smithsonian-Washington
- University Museum, University of Pennsylvania-Philadelphia
- Museum of the American Indian - New York

REGIONAL ETHNOLOGICAL MUSEUMS/ARCHIVES:
- British Columbia Provincial Museum - Victoria
- Provincial Archives of British Columbia - Victoria
- University of British Columbia, Museum of Anthropology
- Alaska State Museum - Juneau

GOVERNMENT AGENCY ARCHIVES:
- Public Archives of Canada - Ottawa
- Bureau of Fisheries, U.S. National Archives-Washington, DC

CHURCH ARCHIVES:
- Presbyterian Historical Society - Philadelphia
- Church Missionary Society (Anglican) - London
- United Church Archives (Methodist) - Toronto

LOCAL MUSEUMS:
- Tongass Historical Society - Ketchikan, Alaska
- Queen Charlotte Islands Museum - Skidegate, British Columbia

LIBRARIES:
- University of Washington - Seattle
- Vancouver Public Library - Vancouver

FIELD COLLECTIONS:
- Howard Phillips Collection - Masset, British Columbia (now in Queen Charlotte Islands Museum)
- Helen Sanderson Collection - Hydaburg, Alaska (now in National Anthropological Archives)

best documented example of a native photographer. With a camera purchased in 1939 from a Hudson Bay Company post, Pitseolak photographed his kin and friends and the last of Baffin Island nomadic life (Eber 1977; Pitseolak and Eber 1975). With consummate Eskimo ingenuity Pitseolak made replacement parts for his cameras, constructed a polarizing filter from a pair of sunglasses, and developed and printed his images in a snow house darkroom. Some 1500 of Pitseolak's negatives are now housed in the Notman archives at McGill University.

There are no simple, straightforward guidelines to tracking down the photo record of an individual culture, for each culture presents a unique challenge. In general, however, photographic research is a lengthy and expensive process, involving visits to widely scattered museums and archives, purchase of study photographs, and trips to the field. Prerequisite to any search for photographs is a thorough knowledge of historical source materials for the region under study which include more unusual data such as the names of professional photographers working in the area and the history of tourism in the region. Helpful to the researcher in this regard are the growing number of directories to early regional photographers that are being compiled and annotated by students of historical photography (See, for example, Mattison 1985a, Rudisell 1973).(2)

DOCUMENTING IMAGES

Museums and archives invariably have far less data on a given image than the researcher would want. Often, the photos housed in a museum are not all accessible to researchers (see Vespa 1980 for an entertaining and informative account of the little known photo treasures at the American Museum of Natural History). Those that are available for study may have little or no accompanying data on provenance, photographer, date, etc. Other problems facing the researcher include the organization of photographic materials, museum policies of acquisition and copying of photographic images, and lack of sensitivity to historically relevant factors in the copying of original prints for museum print files.

While catalogue data on museum photographs are a documentary starting point, sadly they are all too often lacking or, worse, erroneous. The photo shown in Plate 1 led me from archives in North America across the Atlantic, and eventually became the core of my doctoral dissertation on Haida Indian photographic ethnohistory. The length to which I had to go in documenting this single image is not unusual, and similar stories could be related by others who have worked intensively with historical photographs. This photograph of the interior of the Haida chief Weah's house at Masset was ultimately determined to be a stereo view taken in 1884 by Richard Maynard, a professional photographer from Victoria. I first located the photo in the American Museum of Natural History where catalogue data indicated that it was: "Chief Weir's house at Masset. Photographed by Will S. Taylor in 1909." Ethnohistorical literature and field research properly identified the house as that of Weah (Wi:ha), town chief of Masset from c. 1840-1883. However, older Masset Haida told me that the house had been torn down between 1901 and 1903, several years before it was alleged to have been photographed by Mr. Taylor. A photo taken by E.P. Allen for the Field Museum in 1897 revealed the house to be abandoned and in disrepair at that time. The American Museum's photo proved to be an enlargement of one half of an original stereo pair; a copy of the other half was found at the British Columbia Provincial Museum in Victoria. The Provincial Museum's records stated that their photo had been taken by Richard Maynard in 1885. Data from the Church Missionary Society Archives in London, England revised this information. Here I discovered a letter dated August 17, 1884 from a missionary stationed at Masset. With the letter were enclosed eight Maynard stereo prints, one of which was the stereo view of Weah's house interior. The exact time of Maynard's visit to Masset (April 1884) is indicated in the photographer's diary which was subsequently located in the Provincial Archives of British Columbia, in Victoria. Will Taylor was evidently the photographer who copied the Maynard image for the museum files (See Blackman 1981 for discussion of this image and its contents).

The organization of photographic materials varies from institution to institution. In ethnological museums photographs will likely be organized by ethnic group, but in other

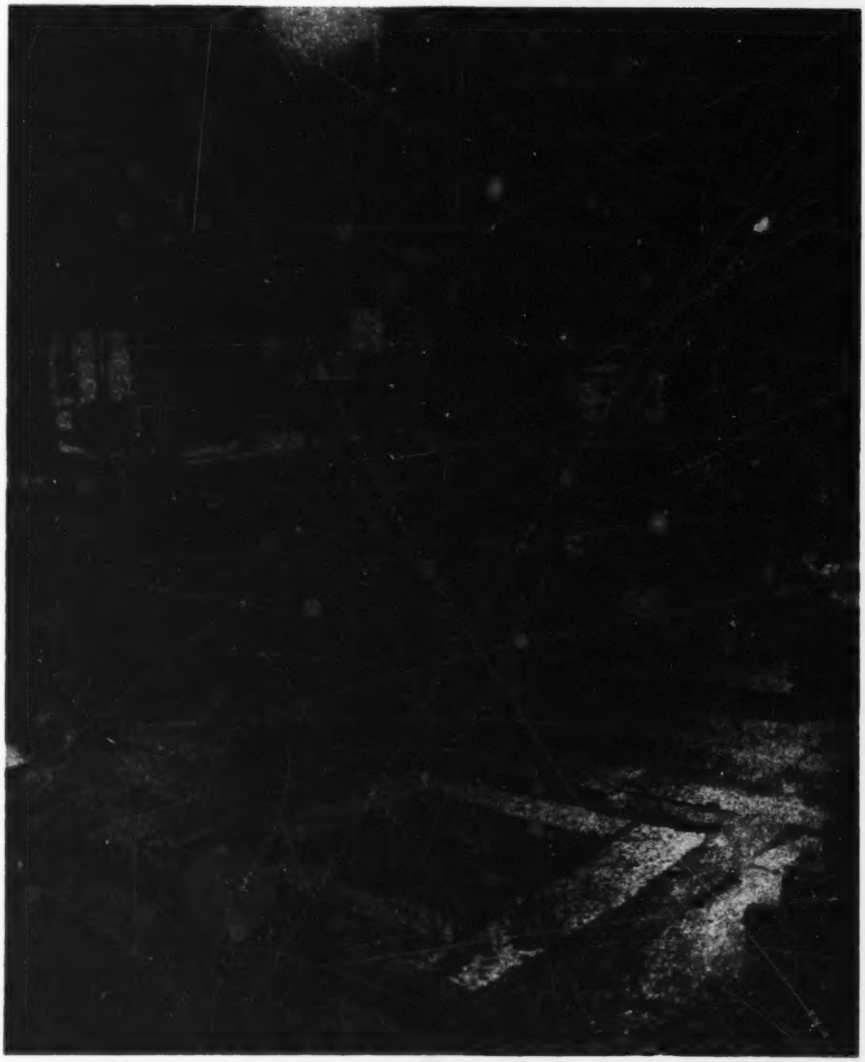

Plate 1

Interior of Chief Weah's house at Masset, British Columbia (Haida). One-half of a stereo pair, photographed by Richard Maynard in 1884. Photo courtesy of the American Museum of Natural History.

archives the visual materials may be organized according to how they were donated or purchased. In still other instances photographs may be catalogued only by photographer. Depending on the nature of one's research project, the organization of archival holdings can help or hinder a project. If, for example, one is researching the consumption of studio photographs of American Indians by non-natives, it would not be helpful if original albums containing such prints had been disassembled and catalogued by ethnic group or photographer; on the other hand, organization by tribal grouping is very useful if one is interested in all images of a particular tribe. The cross-referencing of visual materials by photographer, collection, ethnic group, geographic location, etc. would obviously greatly facilitate the documentation process. Accordingly, some institutions are beginning to computerize their holdings, and videodisc technology holds great promise for searching and accessing collections of visual materials; nonetheless, realization of this new technology may be years down the line (See Banta 1980 for a discussion of computerization of the Harvard Peabody's holdings).

The vagaries of museum and archival policies of photo acquisition and curatorship can complicate the ethnohistorian's search. Photographs may have accompanied the acquisition of an ethnographic collection, or have been donated by descendants of a local photographer; they may comprise the record of an expedition made by a museum staff photographer or of a researcher sponsored by the museum; or, they may be present in the files simply because they illustrated a museum publication years ago. The serendipitous nature of photo collections and the fact that museums seldom have the funds to systematically expand their photographic holdings make finding and documenting the images of particular photographers especially difficult. Even where the history of the images is fairly well known, documentation can be difficult. In an essay on the visual anthropology of Franz Boas, Ira Jacknis (1984) recounts an odyssey of tracking down 168 images made by Victorian photographer O.C. Hastings under Boas' direction. These photographs are historically significant because they were all taken within a short span of time; they encompassed ordinary as well as ceremonial aspects of Kwakiutl culture, and they represent the most prominent late nineteenth century American anthropologist's ideas about the pictorial documentation of a culture. In 1894-95, during a three week period, Franz Boas and O.C. Hastings, a professional photographer Boas hired, took 189 images among the Southern Kwakiutl. One hundred and sixty- eight of the Boas/Hastings negatives were divided between the American Museum of Natural History and the Smithsonian which had sponsored Boas' research. The exact whereabouts of the remaining photos is unknown, though several are thought to have been family photos distributed in the field. According to Boas' instructions, each museum exchanged a set of copy prints with the other. Many of the original photos were placed, uncaptioned, in albums; only a part of the corpus was subsequently copied, catalogued and placed in the museums' print files. Written documentation on the backs of the file prints proved generally inaccurate. Boas' original negative lists, later discovered on file at each institution, had been separated from the negatives and new negative numbers had been assigned by each institution. Even following discovery of Boas' negative lists and study of a variety of auxiliary sources, Jacknis was unable to match every image with the written labels.

The nature of file prints themselves presents further problems to the researcher. If museums have the resources, they prefer to copy original prints and provide researchers with copy prints for study.(3) A museum may not copy all the original photos it holds, while simultaneously it may own copy prints for many originals located elsewhere (e.g. Plate 1). Unless there are catalogue data on the original print or unless the museum allows one to view the original, certain information about the print may be irretrievable. For example, a round image like that in Plate 2 is an indication that the photograph was made with a Kodak, the first camera to use flexible roll film. But if the original print has been enlarged as it has here, it becomes impossible to determine what the original image size was, which is critical to determining the model and baseline date of the Kodak camera used.

In the copying of prints, technicians insensitive to the historical value of the photograph may inadvertently crop a portion of the original part of the image itself, a photographer's nameplate, or a title plate. Often, as in the case cited above, only half of a stereo image will be copied.

Plate 2

Kodak #2 photograph taken at Masset British Columbia in 1890 by Robert Reford. Photo courtesy of the Public Archives of Canada.

In the documenting of historical photographs, the researcher will find it necessary to look beyond the catalogue data for information on the image makers. Photographers' journals, diaries, or letters can often provide significant information. Local business directories may document the years and locations of a photographer's business and local newspapers may carry articles about and obituaries of well known photographers. A few photographers of native subjects (e.g. Jackson 1940) have published books about their work which are not only useful in documenting their prints, but are informative about their approach to their subject matter. As noted earlier, directories to 19th century photographers have been compiled for several regions, and there are a growing number of studies of imagemakers who photographed native subjects.(4)

Very often ethnohistorically valuable photographs in museums will be anonymous and attributing a photograph to a particular photographer becomes, at best, a process of elimination. Sometimes even a printed attribution on an original photo cannot be accepted at face value. Fordyce (1975:1-2), discusses this problem for the popular stereo images, but the problem is shared by other photographs produced for sale.

> The photographers, publishers, and vendors of stereo views were engaged in a pragmatic commercial venture to make a living. Archival record keeping was not among their concerns. Negatives were used over and over for many years; used by different publishers-often simultaneously-without acknowledging the source; and pirated freely by unscrupulous publishers. Moreover, in order for a publisher to keep the subjects in his listing up to date, new negatives were freely substituted for old, worn, or broken ones so that a given publisher's subject number may be found on several different photographs. The color and size of card stock and publisher's name and address imprinted thereon may be some indication of when that specific view (card) itself was produced, but does not necessarily tell much about the date of the negative... or the photographer who took it.

Arnold Pilling (1974), and in the following chapter, discusses the dating of photographs by card mount information; unfortunately, the average researcher of a museum photo collection does not normally have the luxury of working with originals.(5) Dates assigned by museums or archives to photographs, as noted above, are often suspect; frequently documentary data obtained on a photographer - such as the dates of expeditions made to a particular area - may revise the catalogue data. In the absence of any documentary data on a given photograph, depending on the subject matter, it can often be fit into a temporal sequence of photographs from the same locale and at least relatively dated. Photographs of Haida villages, for example, proved fairly easy to order chronologically as settlements were repeatedly photographed by different photographers during the late 19th century. The absolute dates assignable to a number of these images allowed most of the others to be dated within a two-year span of time (See Blackman 1981). In the absence of other information, the identification of native people in a photograph by members of the modern native community often helps to pinpoint the data of a photo.

MANAGING IMAGES

John Collier (1967:64) colorfully identified a major obstacle to photo research when he spoke of the overwhelming "bouquet of culture" present in an image. A photograph, and even more so a collection of related images, presents more information than the researcher can easily handle. If one is dealing with a very large body of photographs (as for example Gregory Bateson and Margaret Mead did in their 1942 photographic study of Bali), doing anything with the images requires not only a superb visual memory, but an inordinate amount of time. Computer technology and the readily usable software database programs available today should ease this problem. In a study of some 140 early studio images of British Columbia Indians I created a format that allowed me to search and sort a number of categories, including tribal identity, clothing, props, nature of pose, sex of subject, photographer, date and location of image and its presence in one or more of several photo albums held by various archives (Blackman 1986).

INTERPRETING PHOTOGRAPHIC IMAGES

Once a sample of historical photographs has been isolated, assigned to photographers, and ordered chronologically, one can begin to systematically explore the subject matter of the images. Photo interpretation addresses a number of issues. First, ethnographic content of the photographs should be carefully evaluated. Second, if the images are pre-1900 one can expect that technological limitations influenced the choice and organization of image content. Third, temporal (seasonal) biases in the photo sample may also influence ethnographic content. The most significant determinant of image content, however, is photographer bias: the extent to which choice of subject matter was governed by the nature of the photographer's interaction with members of the culture photographed and photo coverage of ethnographic subjects motivated by the intended purpose of the final product. In other words, how the photographer was influenced by the "culture of imaging" - a prevailing set of values and beliefs regarding the making, understanding, and viewing of images.

In addition to the historical research into the images and imagemakers, field research may prove profitable in ethnographic interpretation of photographs. Native consultants can frequently identify people and describe rituals and technological activities depicted in old photographs. Photo interviewing can be a useful field method in and of itself; people are generally interested in visual images of their cultures, particularly those depicting a former way of life, and photographs may serve to trigger memories of events and ceremonies that might not otherwise be recalled. Occasionally informants can correct information in an image as when several modern Haida basketmakers commented on the omission of important accessories to spruce root weaving in an 1897 photograph of a Haida woman weaving a basket (Plate 3).

The photographing of this Haida basketweaver raises the issue of technological considerations in the photography process. Weaving was normally conducted by the Haida indoors, yet this woman is shown working out-of-doors. Indoor flash photography was practiced in the 1890's by igniting explosive powdered chemicals, but the quality of the light was uncontrollable and the process itself dangerous

Plate 3

Haida basketmakers of Masset. Stereo photo by O. C. Hastings, 1879. Photo courtesy of the British Columbia Provincial Museum.

(Newhall 1964:157). Thus, if an activity could be photographed out-of-doors it was preferable to an indoor image made with a flash, though ethnographic fact might be distorted in the process.

By the 1870's, the wet plate process of photography allowed the photographing of subjects that moved, albeit ones that moved very slowly. The gelatin dry plates which succeeded the wet plate process (See Newhall 1964; Taft 1964; and Gill 1978 for discussion of photographic technology) were, by the early 1880's, considerably faster, with exposure times averaging about 1/2 second. Until the 1880's photography was the domain of the professional photographer, but in 1888 George Eastman introduced the Kodak which promised to make "the practice of photography well nigh universal" (Anonymous 1888:159). The modest box contained a roll of 100 shots, obviating the necessity of changing glass plates, and more importantly, removing the burden of developing and printing from the photographer. Eastman boasted, "You push the button, we do the rest;" for $10 the film was developed and printed and the camera reloaded with another 100 exposure roll of film. With a fixed focus, an aperture of f9 and shutter speed 1/20 of a second, the Kodak could record action and sequences of behavior (Lothrup 37-39). So promising was the Kodak that anthropologist James Mooney used it to photograph the action of the Ghost Dance in the early 1890's. Despite the success of the Kodak, professional photographers preferred glass plate negatives, and continued improvements of emulsion speed removed the last barriers to action photography by the turn of the 20th century.

The timing of photographer visits to native communities introduces another bias into the photo record of a culture. If, for instance, photographers tended to photograph a native culture during the summer months, certain activities confined to other seasons would have escaped their view. The Haida village of Masset, for example, was not photographed during the winter months, that period of leisure and ceremony on the Northwest Coast. This fact, in part, accounts for the dearth of feast and potlatch photographs from this village (See Blackman 1981).

The most important slant to the photographic record was the photographer's knowledge of and access to the culture photographed, the tastes of the audience for whom the images were produced, and the photographer's conception of the "good" photograph; in short, the cultural biases of the imagemaker and viewer.

In many instances it would seem that photographers of native cultures found it easier to photograph "things" rather than living people. Photographs of Northwest Coast Indian cultures, for example, focus on architecture, perhaps because the distinctive architecture of these peoples bespoke the cultural identity of its inhabitants. For photographers who were not local residents and involved in long-term relationships with the native people, photographing natives may have been more difficult than for those who were. Franz Boas commented on one difficulty of photography in native settlements probably faced by many photographers: "This morning .. I had my camera with me and photographed a handsome totem pole ... Shortly afterward the owner, a young man, appeared and demanded that I pay him which naturally I refused to do..." (Rohner 1969:53).(6)

Studio photographers, who enticed natives to Euroamerican cultural settings for photography, had to face squarely the problem of interacting with and recompensing the native subjects of their cameras. In the studio the photographer was clearly in control of the subject matter and its rendering in a photographic image. These photographers who produced images for general sale, catered to non-native tastes, to the stereotypes held of native peoples and to the public understanding of the photographic medium. Early studio shots of British Columbia Indians fall into the genre of curiosities. Indians were photographed as they were, off the streets of the frontier capital of Vancouver Island, wearing the cast-off clothing of non-natives, carrying their baskets of potatoes or crabs to hawk. Photos such as Plate 4 were particularly sought, along with landscape photos, by visitors to the British Columbia colony as mementos of their journeys. As photographers began to travel to native British Columbia villages beginning in the mid-1860s, images of native settlements and their people were highly desired and the studio Indian became passe. Passe, at least in original form, for more than one studio image of a Northwest Coast Indian from the 1860s was cut and pasted onto a later image of a native village and rephotographed. If the villages were abandoned at the time

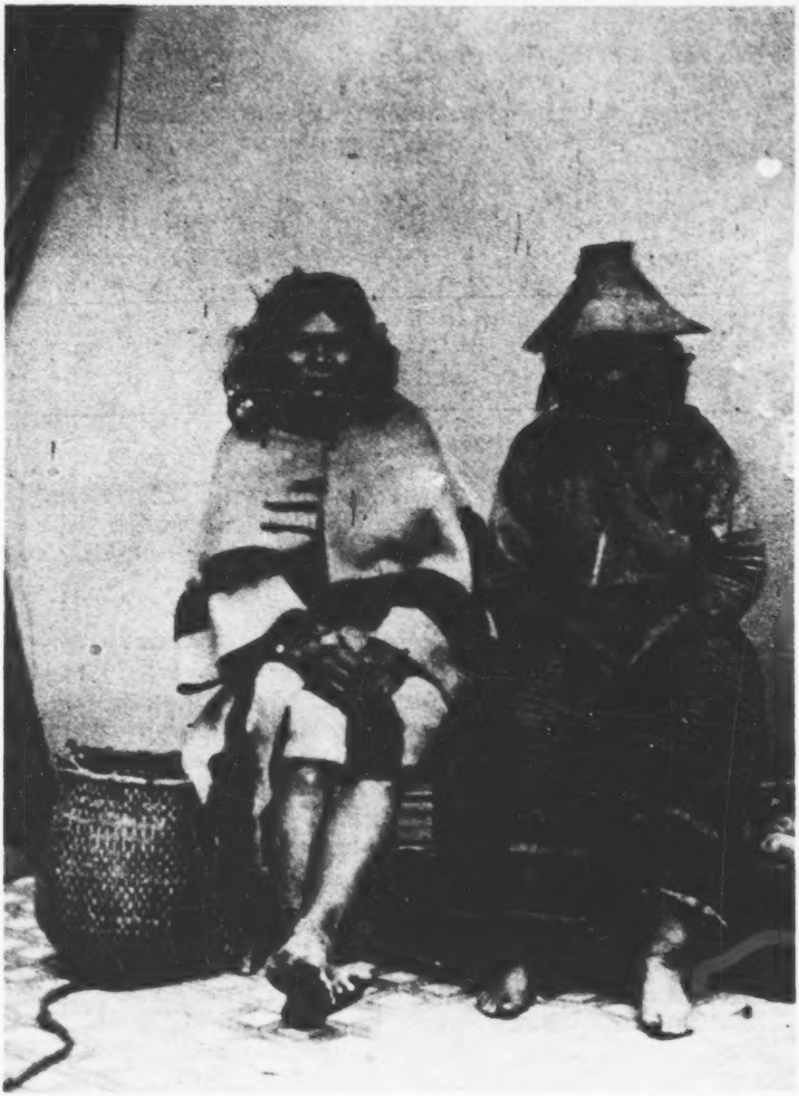

Plate 4

Cowichan potato sellers. Photo by Frederick Dally, Victoria, British Columbia, c. 1867.

Courtesy of the British Columbia Provincial Museum, Victoria, British Columbia.

photographers were present or if natives there were unwilling to pose, old images could thus find a new life. B.W. Leeson (1914:489), a commercial photographer who made numerous photos of Kwakiutl Indians for sale after the turn of the 20th century, commented upon the power the photographic image held over the viewer:

> When I came here, the general opinion...was that these Siwash Indians were too dirty and uninteresting to be worth the trouble and expense of photographing them; but a few experiments in that direction showed me that the dirt and odor were eliminated in the process and, for that reason perhaps, people seemed to find the photographs more interesting than the Indians themselves.

Because it was the image itself which conveyed the validity of the subject matter, photographers often felt free to innovate and manipulate the "reality" of which Leeson speaks.

By the latter part of the 19th century stereotypes of American Indians were firmly entrenched in American culture and routinely perpetuated by photographers who marketed images commercially. It was the costume and the hairstyle which made the Indian; thus, photographers often kept a stock of Indian costumes and even wigs in which to outfit their subjects. Joanna Scherer (1975) has documented the most striking examples of this practice. Such costuming invalidates any ethnographic "truth" of the image, but is most revealing about the stereotyping of alien cultures.

Nineteenth century Americans associated Indians with "nature," so bare-breasted native women posed against some "natural" background were favored subjects for photographers. Similarly, American Indians were often posed against some rustic backdrop of "natural" texture -- wool, cedar bark, or other fiber (See Gidley 1979:140). Studio shots often portray the Indian as warlike, posed with bow and arrows or gun, wearing a war bonnet, or even engaged in mock combat. The noble savage stereotype of the American Indian offered inspiration to those photographers who regarded the photograph as art rather than document. Edward S. Curtis was perhaps the best known and most successful of such image makers, but others imitated the genre.

Photographers of natives who saw photography for its documentary value strived for a different image, though they were not necessarily free from the prevailing stereotypes of either photography or native peoples. Study of the literature available to professional and amateur photographers in photo magazines and journals from the late 19th and early 20th centuries should add to our knowledge of the "culture of imaging."

VIEWING CULTURE HISTORY

Despite the inevitable biases and inaccuracies in the photographic record of native cultures, one can often get beyond the stereotypes to a historical reality. The kinds of cultural historical data that can be gleaned from a sample of photographs depends, of course, upon the subject matter captured by the camera. As photographers often focused upon "things," one might profitably investigate material culture -- the artifacts, technology, and architecture depicted in photos. For example, in much of Native North America, traditional housing persisted well into the photographic era and was a favorite subject for early photographers. Such architectural photographs may permit detailed study of construction methods, housing styles, and settlement patterns. Art and aesthetics related to housing may be pursued through these same photographs: the iconography of house front paintings or carvings, totem poles, tipi cover paintings, etc. Photographs of artifacts or architecture may additionally serve as an important adjunct to archeological endeavors, and certain photographs of house structures may allow "reconstruction" of no longer extant dwellings and villages (See Blackman 1981).

If North American Indian photographs are typical, images of ritual and ceremony are not as numerous as those of material culture for reasons previously discussed. In addition, native peoples may have forbidden photography of rituals (as many Southwestern pueblos did after the turn of the 20th century) or the events themselves may have been suppressed by governments administering native peoples.

(The Sun Dance and potlatch are probably the best known examples of the latter from North America.)

The meanings and functions of a ritual are not easily communicated in a two dimensional space which freezes time and motion, a problem facing the photographer of a ritual as well as the viewer of its image. Furthermore, a ceremony is an event in time as well as space, and I doubt most early photographers of native rituals adequately captured both spatial and temporal dimensions. This is a particularly crucial problem in understanding visual images of lengthy, complex rituals like the Northwest Coast potlatch. Despite these impediments to understanding photographs of rituals, one can often learn from the visual images ethnographic or historical facts unrecorded in the anthropological literature. In the case of the potlatch, photographs are, as expected, far more informative about certain proxemics of the ritual than is any written material. The images show in great detail the placement and arrangement of potlatch wealth within the village area, a topic that is not discussed in the voluminous literature on the potlatch (Blackman 1977).(7)

Historical photographs may best serve the ethnohistorian in the study of culture change, for photos are an avenue to the visualization of acculturation. The early decades of photography coincide with a period of rapid, intensive culture change in many native societies. Ethnographers of the later 19th century were not really interested in acculturation and, while photographers may not have been either, the camera was often the unwitting documenter of the contact and sometimes conflict between divergent ways of life.

Houses are contained spaces which mirror in the arrangement of their contents something of the culture of their members. Plate 1, which depicts the interior of the Haida chief Weah's house at Masset, British Columbia is an eloquent visual statement of one high ranking Northwest Coast native's accommodation to features of Euroamerican life at the close of the 19th century. Architectural photographs, mentioned earlier, are also frequently informative in regard to the adoption of Euroamerican technology and ideas (Plate 5).

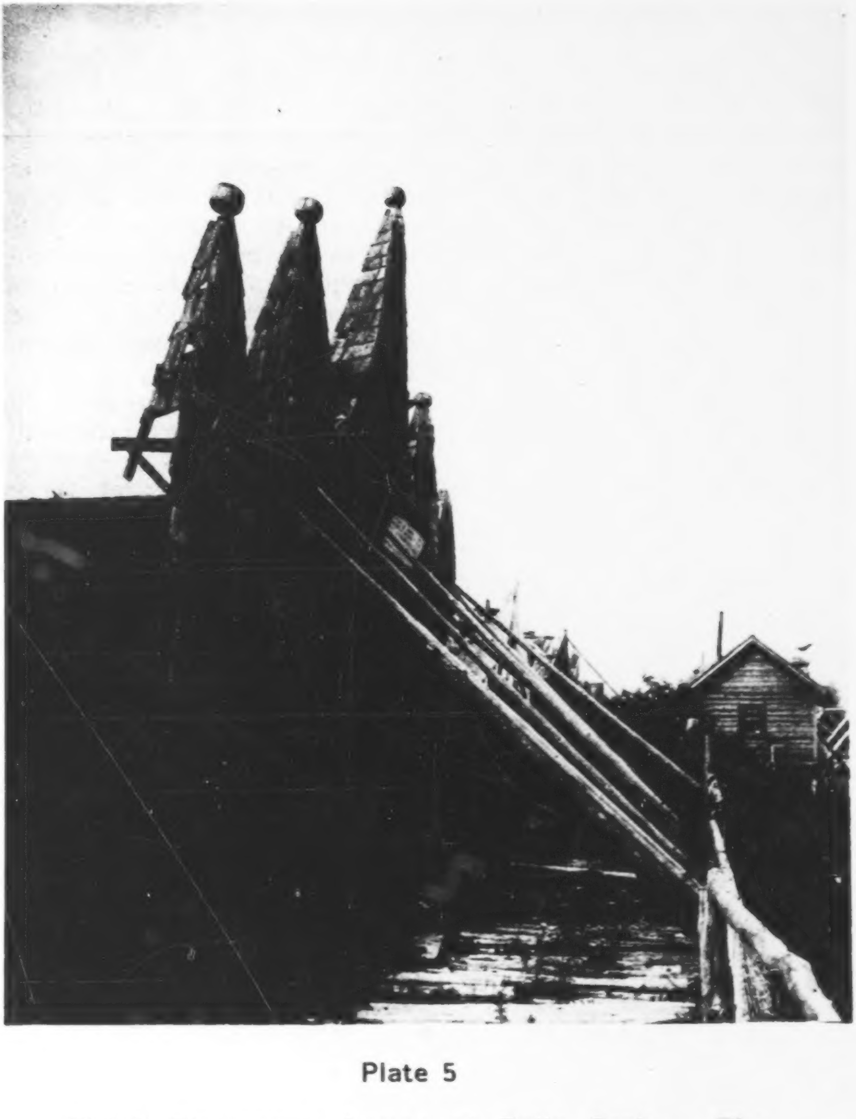

Plate 5

Chief Cleleman's house at Bella Coola. The peaked facade pieces represent a mountain claimed by the chief as one of his properties. Photo by Harlan I. Smith, 1909. Photo courtesy of the National Museums of Canada.

Differential acculturation can be explored through a corpus of photographs from a given culture. Photographs of people, for instance, may reveal variations in styles of dress that are primarily a function of acculturation (Plate 6); a temporal sequence of such images from the same culture may document important shifts in clothing styles such as the abandonment of blankets for Euroamerican fashions. A corpus of photographs of a native settlement, taken over time, may reveal more than merely differential material acculturation. Photographs of late 19th and early 20th century Haida villages, as a case in point, record the adoption of white style dwellings and abandonment of traditional houses at a time when the carving and erection of totem poles was still viable. On closer examination, totem pole iconography itself points to a changing social order, and the subsequent decline of mortuary totem pole raising, also documented by the camera, reflects a reorganization of religious beliefs and mortuary rituals. Perhaps more importantly, these historical photographs of Haida culture document in a way that no written record has the creative responses of a native people to the pressures of acculturation.

Other themes of cultural historical significance, some unique to individual cultures, will suggest themselves as the researcher becomes immersed in the visual record of the past.

SUMMARY AND CONCLUSION

The study of ethnohistory through visual documents is an area rich with possibilities that has only begun to be tapped. Visual ethnohistorical research requires the development of proficiencies in several areas, including: a working knowledge of the history of photographic technology; an understanding of the socio-cultural background of the imagemakers and audience(s) to whom their images were addressed as well as an understanding of the "culture of imaging" itself; finally, and perhaps most importantly, knowledge of the culture portrayed in the images. Research on historical photographs is frequently frustrating, serpentine, fraught with inadequate and erroneous data, expensive and time consuming. The rewards, however, are usually worth the effort.

Plate 6

Kwakiutl Indians in ceremonial clothing. Quatsino Sound, 1897. The photographer, B. W. Leeson, wrote: "This group was collected together with some difficulty. There were about ten of the older people left in the houses, that were wanted the most. They could not be induced to come out. The younger ones were quite ready. All the younger men in the group had been fur sealing with the Whiteman's schooners ... and were quite sophisticated. At that date ... the blanket was still the main source of warmth and comfort with the old people." Photo courtesy of the British Columbia Provincial Museum.

NOTES

1. See Banta and Hinsley (1986) for an historical review of photography in the service of anthropology.

2. Rudisell (n.d.) in an unpublished paper (1985) lists 69 published works and 40 works in progress on regional photographers of North America.

3. The International Museum of Photography at George Eastman House (Rochester, NY) is an exception, being an archive of original prints.

4. Belous and Weinstein 1964; Casagrande and Bourns 1983; Glenn 1981, 1983; Jacknis 1984; Mattison 1985b; and Palmquist 1977 represent just a few of many such studies.

5. And, as noted previously, a card mount date is no guarantee the negative is of the same age.

6. See Blackman 1982 for a discussion of Haida responses to photography of Haida people during the late 19th century.

7. However, it is again "things" which have been emphasized by the photographers.

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DATING PHOTOGRAPHS

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That the photograph is a significant historical document has come to be an accepted proposition in some scholarly circles. Within anthropology, the photographic image is, at least occasionally, a subject of analysis in ethnohistory, ethnic history, family history and genealogy, land use history, historical archaeology, and industrial archaeology.

In many contexts, the scholarly utility of a photograph is greatly enhanced by the ability to assign a date to it. In a 1962 article, the writer established that by "the first few years of this century" tourists were traveling to Taos Indian pueblo to watch dances (Pilling 1962: 90); in this instance, the date was assigned by dating the fashions being worn by the viewers. A recently-published (Fleming and Luskey 1986: 210-211) image of the same subject shows a much earlier scene establishing the same point; it was shot by the local Elizabethtown, New Mexico, photographer Orloff Westmann, for the English collector and entrepreneur William Henry Blackmore, on the Feast of San Geronimo, September 30, 1871. The value of another recently-published picture is enhanced by dating it by the presence of a Model T in the background. This shot shows Wovoka, the initiator of the 1890 Ghost Dance, around 1914 (Fleming and Luskey 1986: 165). Indeed, the 1986 coffee-table book of American Indian images by Paula Richardson Fleming and Judith Luskey gives the exact date of photographing for many well-known shots. It is to be remembered that the more data known about an image the greater its importance as a historical document.

It is the task of the present chapter to provide guidelines for dating otherwise undated images. Much of the data below derives from earlier papers by the writer (Pilling 1962, 1974, 1978). Especially his 1974 article has stimulated the production of other papers which students desiring illustrations of types mentioned may want to consult. (See Welling 1976: 70-71, 192; Morgan and Brown 1981: 187-190; Covington 1986.)

LABELLING

Scholars anxious to "identify" photographs should be cautious about accepting manuscript labels added on the back (or front) of a picture. Sometimes labels, including dates, have been added long after the photograph was taken. The eyes and memory of the original owner may have faded before the photo was labeled. Sometimes the label has even been added by an aged son or daughter of the original owner. Over-zealous antique dealers have been known to add dates they felt appropriate to the image.

To alert the scholar to possible misinformation in labels, the type of utensil used in the labeling should be reviewed. Pencil lead was used for labels at least as early as the 18th century. A "self-supplying fountain pen" was patented by Marcus T.C. Gould, of Philadelphia, as early as October 1, 1830 (Burke 1847: 324); although the fountain pen did not come into common use until 1884 (Encyclopedia Britannica 1974: 845). Steel pen nibs were first available commercially in 1858 (Kane 1964: 440); their large-scale manufacture started in the United States in 1861 (Encyclopedia Britannica 1974: 845). The indelible pencil was invented in 1866 (Kane 1964: 440). The ball-point pen, with its uneven flow, was first available commercially in 1898 (Kane 1964: 740), but was not generally used until about 1945 (Encyclopedia Britannica 1974: 845).

LEGEND ADDED TO NEGATIVE

Dating and other data added to negatives will be printed on an image. Black lettering on an image is produced when the letters are scratched into or through the emulsion of the negative; such lettering is permanent.

White lettering results from an opaque ink having been added to one side of the negative. Such lettering may remain on a negative for years; through time, bits of ink may flake away; even the entire label may be removed and be replaced by another. All such labels should be viewed with some suspicion, primarily because labeling may have occurred years after the image was captured and may be by a person totally unrelated to the original photographer.

Occasionally the image-altering label includes a date. For instance, a 1912 date appears on a series of photographs of the Karok Deerskin Dance at Somes Bar taken by the local Orleans, California, photographer Short (Siskiyou Pioneer 1965: 53).

Sometimes non-date labeling occurs with a catalogue number only, as one sees on some images by the anthropologist/photographer William Henry Jackson (Newhall and Edkins 1974:104), or with the alleged subject of the photograph also specified. Number labeling is common in the case of commercial photographic post cards, a type of photograph probably not introduced into the United States until 1902 (Pilling 1974: 15). If the date of an adjacent catalogue number can be established, sometimes but far from always, it may provide the temporal placement for an otherwise undated shot.

UNITED STATES VS. NON-UNITED STATES DATING

In the 19th century, when the photograph first was produced, even as in the last quarter of the 20th century, cultural variation was sufficiently great so that very few traits could be considered as worldwide, even if one restricted one's definition of such universality to the more industrialized and standardized aspects of urbane culture, such as photography. Dress styles differ from country to country; styles originate in one country and move outward. Automobile designs--another potential means of image dating--do not incorporate the same features at the same date in all makes and models. The introduction of new photographic varieties like the "tin type," or ferrotype, may be restricted primarily to one country. New mount sizes may become popular in one country, while being unknown in other localities. All these variations mean that in large part the dating techniques for each nation must be worked out separately.

What is presented below is meant primarily for dating photographic documents of United States origin. However, where data are available on dating elsewhere, those will be given. A few specimens have been seen which establish that French cartes-de-visite stock was being used in Peru in the late 1860s; Canadian photographers seem to have been using some U.S. card stock in producing Canadian cartes-de-visite, also in the 1860s. By the late 19th century, major U.S. stereograph manufacturers were distributing some images of European subjects on U.S.-made card stock. Also to be noted is that in the 20th century, U.S.-based missionaries, naval and military personnel, tourists, and even ethnographers were photographing people elsewhere in the world. Since the resulting photographs were developed, printed, and mounted in the United States, U.S. non-image dating guidelines may be used to assign dates to these photographs of non-U.S. scenes.

IMAGE ALTERATIONS

We are all aware that a skilled photographer can alter images. Lines were scratched through the emulsion on the negative to intensify contrast; such a procedure seems to have been employed on one of William Henry Jackson's views reproduced by Beaumont Newhall and Diana E. Edkins (1974: 85). Whole areas of a photograph may be shaded away to obliterate an offending sign of acculturation. For instance, comparison between two printings of a view of the Yurok Jump Dance at Pecwan in 1893 shows the acculturated witnesses in the background shaded away in one printing (Andrews 1960:171 vs. unaltered Nixon 1966:167 and Russell 1959: opposite 101). Two post cards have been seen of the same Tia Juana, Mexico, scene. One--presumably the earlier--shows no automobiles or other vehicles in the street; the other seems to be a revision of the earlier negative with a few cars haphazardly added on the street. However, such modifications are probably rare. That such a modification would actually cause one to misdate an image is probably unlikely.

IMAGE GROUPS

It is sometimes possible to date a specific photograph because it is part of a group another photograph of which can be dated. There are at least three ways that one may come to conclude that an image group is involved:

1. The same clothing, especially when before the same background, may be judged to have been taken on the same occasion.

2. Matching negative edges. With the first availability of transparent roll film in 1891 (Taft 1938/1964:398), it became possible sometimes to match the cut edges of the film strip and thereby establish that two shots were taken at about the same time.

3. Adjacent catalogue numbers. Where the shots have been catalogued by a museum or commercial or amateur photographer adjacent catalogue numbers often signal that the views were taken at the same event.

IMAGE DATING

Prior to about 1970, what little dating was done of photographic images was the result of the preservation of a label on, or in, the photograph or the temporal analysis of costume, especially ladies' dresses. Below are discussed costume dating and several other image dating approaches.

DATE INCLUDING IMAGES

Occasionally, collectors encounter images which include the relevant date within the image. There was a period before 1920 in the Polish community of the Detroit area when at least one photographer placed a card with the year printed on it in many First Communion photographs. On Washington's Birthday, 1894, the entire Price Elementary School student body in Utah had their picture taken with their teachers in front of a large blackboard bearing the date and the school name (Wadsworth 1975:100). Football or other sports team pictures are known with the date painted on the ball; for instance, see the 1900 photograph of the

Hampton Institute football team (Museum of Modern Art 1966:35). Other images which actually show dates include interior views with wall calendars visible and open-air shots showing automobiles with dated license plates, date-bearing banners, and date-including parade floats.

COSTUME DATING

As early as the early 1960s, an accepted technique for dating photographs was to base a conclusion on the latest fashion in the image (Pilling 1962:90). In using such dating, it is to be remembered that styles lag in rural and frontier situations. There are, of course, exceptions; for instance, the Yurok curer, Fanny Flounder Erik Erikson's "F" (1943: 260-267; 1963: 173)-- living in the isolated village of Requa in northwestern California-- attempted very conspicuously to "stay in style." Tourists are more likely to be wearing up-to-date fashions than less urbane locals. Women's styles, especially those of upper middle class women, changed more regularly than men's, and are, therefore, more useful in dating. It is to be remembered that simple amateur photography was not known until the 1890s, meaning that the photography occurring before then was intended for persons of middle class or higher status. The larger the crowd, the more likely it is that at least one person will be wearing a very recent fashion.

Unfortunately, a single compendium of the earliest date of specific innovations in style has never been issued. Probably the most useful volume presently available is the fashion plate book assembled by Stella Blum (1974) from the pages of the Harper's Bazaar between 1867 and 1898. Below are listed from Blum's work and other sources dates of introductions of specific features of fashion:

Crinoline hooped skirt, 1856, for England	(Cunnington and Cunnington 1970:445)
Caught-up skirts, 1866	(Blum 1974:3)
Bustle, February, 1869	(Blum 1974:15, 18)
Lace or lace-trimmed cap, April 1871	(Blum 1974:33)
Flat-stomached dresses, October 1875	(Blum 1974:77)
Fans, February 1881	(Blum 1974:122)

Dress sleeves with padding atop shoulder, October 1882	(Blum 1974:145)
Leg-of-mutton dress sleeve, tight from wrist to elbow, puffed, February 1889	(Blum 1974:213, 216)
Dress sleeve, tight from wrist to elbow, slightly flaring to shoulder, October 1889	(Blum 1974:216)
Hourglass figure, January, 1891	(Blum 1974:229)
Dress sleeve, tight from wrist to elbow, flaring to puff at shoulder, March 1893	(Blum 1974:243)
Dress sleeve, tight from wrist to elbow, big puff to shoulder, March 1893	(Blum 1974:243)
Flat brimmed straw hat, with brim worn horizontal to ground, simple bow or plain, June 1893	(Blum 1974:253)
Flat brimmed straw hat, with brim worn horizontal to ground, elaborately decorated, March 1896	(Blum 1974:270, 278)
Skirt with mismatched blouse, 1899	(Pilling 1962:90)
Blouse sleeve, tight at wrist, loose above wrist, about about 1900	(Piliing 1962:90)
Ladies' hat with oversized crown, and no brim, 1907, for England	(Byrde 1986:30)
Ladies' hats with oversized crown, and slightly drooping wide brim, 1909, for England	(Byrde 1986:30)
Ladies' hats with oversized crown flat brim, 1918, for U.S.	(Coleman 1972)
Women's hair cut in bob, 1918, for U.S.	(Charles and and DeAnfrasc 1970:175)
Women's hair cut in bob, 1927, for England	(Byrde 1986: 55).

AUTO DATING

Another avenue for dating pictures is offered by identification of the model year of the latest automobile in a view, or by the presence of later repainting styles or accessories. As with clothing styles, the latest item establishes an earliest possible date for an image. In the case of auto dating, frontier and rural lag are not as significant as with clothing fashions. Also, as with costume dating, the more items shown, the more precise can be the dating. A compendium of auto innovations is not available at present; however, classic car hobbyists offer a fine source of data on auto innovation. Useful dates of innovations are:

Headlights, as opposed to chimney topped headlamps, 1903	(Clymer 1950:24) (Clymer 1950:24)
Windshield, 1906	(Clymer 1950:48)
Left-handed steering, 1907	(Kane 1964:54)
First Model T, 1908	(Clymer 1955)
Two-part windshield, 1908	(Clymer 1955:17)
Totally enclosed auto, a limosine, 1912	(Clymer 1950:125)
Sedan-type car, 1913	(Kane 1964:55)
Flat roof, 1923	(Clymer 1950:198, 200)
Balloon tire production, 1923	(Kane 1964:60)
Single-piece windshield, 1924	(Clymer 1950:202)
First Model A, 1928	(Clymer 1950:196)

RAILWAY DATING

Many early photographs were sold, as souvenirs, on railway passenger trains. When they include the railway train or other railway related phenomena, the image may be dateable from developments in the railway industry. American railway innovations include:

Track-side water tanks, 1870	(Kane 1964:728)
Street cars, 1872	(Kane 1964:729)
Cable cars, 1873	(Kane 1964:730)
Municipal railway service, 1877	(Kane 1964:733)
Hanging railway bridges, 1879	(Kane 1964:734)

STUDIO PROP DATING

Authors have suggested that there is some dating significance to artifacts used as props or portrayed on backdrops in photographic studios. Although the accuracy of this type of dating has not been tested or refined by the present writer against any large collection of dated photographs these suggestions are repeated as of possible value.

1860s	Curtain, column, balustrade (Gernsheim and Gernsheim 1955:300).
1864	"Ornamental carpets, chairs, curtains, pillars, balustrades..." (Towler 1864/1969:25).
1870s	Fence, stile, rustic bridge (Gernsheim and Gernsheim 1955:300; Eakle 1976:15).
	Glade with trees with leaves obvious or limbs drooping.
	Lake or pond, swan and steps (Eakle 1976:15).
1880s	Hammock or swing.
	Railway carriage (Gernsheim and Gernsheim 1955: 300).
	Horseback (Eakle 1976:15).
1890s	Bicycle.
	Cockatoos (Eakle 1976:15).
	Palm trees (Gernsheim and Gernsheim 1955:300).
1900s	Motorcycles and sidecars (Eakle 1976:15).
	Automobiles (Gernsheim and Gernsheim 1955:300).

SPECIFIC EVENT DATING

In some cases other specific innovations are useful bases of dating. Those effecting much of the United States include:

Electric street lighting, 1879	(Kane 1964:734)
Buffalo Bill's West Show, 1883	(Kane 1964:737)

Local events may also prove useful, although research in city or county histories may be necessary to establish the date. When specific buildings occur in the background, the image cannot predate the building. New houses and buildings in open areas may be detected as new due to the lack of shrubbery around them. A shot of an unshrub-decorated St. Francis Hotel annex, in San Francisco, amid the ruins of earthquake-destroyed buildings dates such a view as from mid or late 1906.

NON-IMAGE DATING

There are a series of techniques that may be used in dating photographs which do not derive from the content of the image. These include dating the photograph by data contained in its labeling, or reference to changes in mounting stock, photographic paper, and other features of the technology of photography.

HISTORICAL DATA

Sometimes photographs can be dated in part by special historical data available to supplement what appears in the image. The date when a photograph was received by an institution may be useful in dating it. For instance, both the Peabody Museum of Archaeology and Ethnology, Harvard (1963: vol. 12, p. 292) and the Royal Anthropological Institute in London own photographic albums presented by the United States Geological Survey of the Territories in 1877, captioned with labels cut out of William Henry Jackson's (1877) Descriptive Catalogue of Photographs of North American Indians. The RAI album contains "more than 600" images (Poignant 1980:8).

Rites Of Passage

When photographs became common, births, christenings, birthdays, first communions, weddings, and funerals became the subject of photographs. Such shots often can be dated because the date of the event is known. However, insofar as possible, analysts should always check that the person allegedly shown has been properly identified; baby pictures not labelled at the time, may confuse siblings; neighbors' wedding photographs may get mixed in with family photos.

The memorial photograph took two forms. There is the posthumous shot, sometimes even taken with the body on display in the casket. There is also the last pre-death photograph known of the person; in such cases, the date of the death does not date the image; it only provides a latest possible date.

Tourist Trips

An outstanding source of specific dated material is the souvenir photo collection from a tour. If a diary, or other information on when a tour occurred, exists those data may serve to pin-point the time of any shots showing members of the tour.

Generally available souvenir shots purchased on a trip cannot postdate their purchase, although they may considerably predate it. The 1913 world tour photographs collected by Governor Chase S. Osborn, of Michigan, with their accompanying diary, form a fine body of images from the Philippines, Thailand, Burma, and Siberia, dated as to their day of acquisition. Similarly, one can establish that the portrait of a Nisenan lad shown by Joanna C. Scherer (1973:37) had to have been taken before late January 1876 (Heizer 1976:3), because it was then that its collector's field work terminated; Powers (1877/1976: 339, Figure 30) can be associated with the image because an engraving based on the surviving photograph was reproduced in his field report.

Albums of trip shots, even where the assembler is not known, let alone his diary being available, still occasionally may have hints to date the tour. Groups of post cards or photos from an exotic locale, when located in a small lot of pictures offered by an antique or flea-market dealer, may be analyzed to establish the date to which they apply.

Address and Name Dating

One technique which can aid in dating photographic mounts is the presence on most of them of the photographer's name and address. City directories and state gazetteers can be used to establish when specific photographers were at specific addresses.

Darrah gives the following data on the names and addresses of stereographic view producers whose views had national distribution:

E. Anthony, 308 Broadway, New York 1856-1860 (New York 1857: 139).
E. Anthony, 501 Broadway, New York 1860-1863.
E. & H. T. Anthony, 501 Broadway, New York 1863-1871.
E. & H. T. Anthony, 591 Broadway, New York 1871-1881. (Darrah 1964: 36).

Darrah (1964: 41-42) lists the following dates for the Kilburn operation of Littleton, N.H.:

Kilburn Brothers	1865-1877
B. W. Kilburn	1877-1904

DATING BY CHANGES IN TECHNOLOGY OR MOTIF

Techniques were developed in the early 1970s for some dating of photographs by changes in mount stock and photographic paper. However, it is to be stressed that occasionally images were printed from old negatives; in that case, mounts and photographic stock will be of a later date than the image; accompanying Figure 1 shows a cabinet photographic mount which may be assigned to roughly 1890 on which is reproduced the image of a daguerreotype, the latter having a covering mat showing the elaborate tooling of the late 1850s and early 1860s. Large early photographic houses bought up and/or copied without permission other photographer's work and issued them later as their own. This problem plagued Beaumont Newhall and Diane Edkins (1974: 53) when they found Southwest Indian photographs taken by Adam Clarke Vroman (Mahood 1961: 110) among the negatives from William Henry Jackson's Detroit Publishing Company. In this regard, it is noteworthy that copy images can often be detected due to their lack of sharpness. Additionally, copy photographs can sometimes be isolated because they are commonly mounted on stock lacking any photographer's name.

One of the reasons one can use photographic paper stock and photographic mounts for dating U.S. photographs

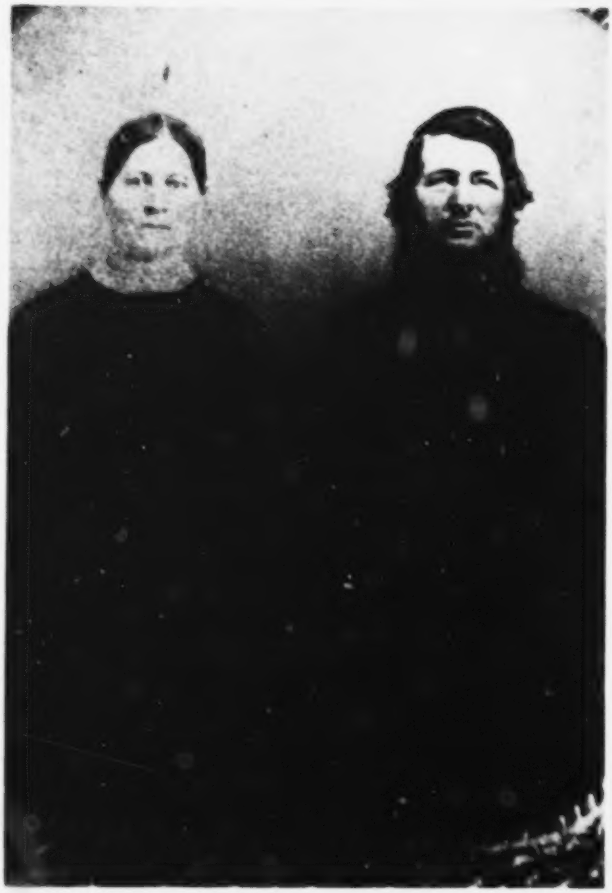

Figure 1. A cabinet photograph of a daguerreotype, the latter showing the finely-textured mat embossed with elaborate scrolls which Welling (1976:24-25) dates in the late 1850s and early 1860s. Mount is 16.5 cm. (6 1/2 in.) high by 10.8 cm. (4 1/4 in.) wide; .75 mm. thick. Mount color: Munsell 5Y8.5/1. Light brown (Munsell 2.5Y5/4) lettering not impressed. Mount probably dates ca. 1890.

is that nationally-distributed photographic magazines were part of the American scene by 1850 (Taft 1938/1964: 86). They advertised photographer's supply houses. There were not many of these suppliers, so that as old stock and paper ran out and new stock came in, all photographers using the same supplier were effected at about the same time. Useful sources of data on supplies include an 1876 price list for stereoscope mounts sold by Wilson, Hood and Company of Philadelphia (Darrah 1964: 15); the E. & H.T. Anthony and Company catalogue for 1891; and the Premo Camera Catalogue for 1898. Supply patterns mean that not only do styles in stock and paper tend to have the same date throughout the nation, but also the type face in the photographer's name and address printed on most mounts has a similar nation-wide occurrence.

DAGUERREOTYPE (1839 - early 1860s)

The beginning of photography is generally attributed to the discovery in Paris, in January 1839, by Louis Jacques Mande' Daguerre, of what is now called "the Daguerrean process." A daguerreotype is a silver plated copper sheet, exposed to iodine vapor, then to the well-light subject, then "developed" in mercury vapor, washed in "hypo," then water, dried and mounted beneath glass. This was later put in a case (Taft 1938/1964: 5-7). Samuel F. B. Morse, the American artist and inventor of the telegraph, introduced daguerreotype making into the United States late in 1839 (Taft 1938/1964: 15). About 1860, developments in photographs printed on paper and the tintype brought daguerreotype production to an end (Rinhart and Rinhart 1967: 8).

Very few ethnographically-significant daguerreotypes are known. A daguerreotype of a California Indian, possibly a Southern Maidu, in ceremonial attire survives in the Southwest Museum, Pasadena (Kroeber and Heizer 1968: 9). One of the earliest surviving images of a Native American was on a daguerreotype of the Sauk leader Keokuk (ca. 1780 - 1848: Jones 1907), taken in 1847, by Thomas M. Easterly, and copied by A. Zeno Shindler in Washington in 1868 (Scherer 1970: 7; 1973: 60; Blackman 1980: 68).

William Welling (1976: 24-25) offers some guidelines to dating daguerreotypes apparently remaining in their original cases. The feature of the mounting which seems to have changed is the mat which was immediately atop the image and beneath the covering glass. Mats from the early and mid 1840s had an overall texturing and an opening of either an elongated octagonal, an oval, or a rectangle with a flat arched top. Welling dates mats with overall texturing, bevelled edges to the opening, and opening outlines of scrolls or a round cornered rectangle with a line of small beads set just outside the opening as coming from the late 1840s and early 1850s. However, such a date may, in fact, be undefendably early; for the introduction of "bevelling and polishing of the inner edges of daguerreotype face-plates and 'mats'" apparently correlates with the issuing of U.S. Patent No. 13,196 on July 3, 1855, to Edward Brown and its immediate assignment to the Scoville Manufacturing Company (U.S. Patent Office 1856: Vol.2, p.169). Welling (1976:24-25) identifies as mid-1850s and early 1860s mats with elaborate pressed scrolls, as well as those with a fine overall texturing and an oval opening and an impressed oval frame around it; see Figure 1 herein. Also see Welling's page 24 for illustrations.

AMBROTYPE (1854-1858)

The ambrotype--a photographic image on glass, cased like a daguerreotype--was patented in July 1854 (Taft 1938/1964: 126). An ambrotype of a Native American identified as "Brandy Legs" survives; it is dated as "c. 1858" (Rinhart and Rinhart 1967: 66). The polishing and bevelling of its mat means it cannot predate July 1855.

STEREOGRAPHS (ca. 1855 - 1940)

The stereograph consists of twin photographs mounted adjacent to one another which through the use of a viewer can be made to produce a three-dimensional mental impression. The first stereographic view was not a photograph; it was drawn in 1838. Fox Talbot and Henry Collen produced the first stereoscopic paper photograph in 1841 (Kingslake 1971). The earliest card stereographs were produced in 1850 or 1851 by the somewhat-ephemeral "calotype" process, also known as "talbotypes." In 1851 stereographic paper photographs on cards were first produced from glass negatives. A U.S. patent was issued to J. F. Mascher, of Philadelphia, on March 8, 1853, for a stereoscope to view daguerreotypes (U. S. Patent Office 1854: Vol. 1, p. 149). The first American stereographs consisting of paper photographs on card mounts were produced in 1854 (Welling 1976: 39); while stereographs consisting of transparent glass images also first occurred in that year (Darrah 1964: 27). In 1860, Oliver Wendell Holmes invented the hand stereoscope (Darrah 1964: 10). A manual for the use of stereographs in the classroom was issued as late as 1934 (Thralls 1934). Darrah (1964: 20) gives 1940 as the last year of stereograph production.

Stereographs are known today especially from the work of that pioneer in photographic scholarship William Culp Darrah (1964, 1977; see also Earle 1979).

Thickness

Over the years that stereoscopic mounts were in use, they were produced on card stock of a range of thicknesses. In general, the earlier cards were thinner; the later cards, thicker.

Analysis of a considerable group of exactly dated cards, supplemented by data on cards of less precise dating as a check, shows that thickness seems to have had considerable variation with card stock of .05 cm. or less coming only from 1864 or earlier, that of .07 cm. or less coming from 1878 or before, and that of .12 cm. or more all dating from 1889 or later.

The precise data on mount thickness are:

		Numbers	
Thickness	Dates	Exactly Dated	Others Consistent
.4 mm.	-	-	n = 1
.5 mm.	1855-1864	n = 5	n = 3
.6 mm.	1865-1874	n = 6	n = 13
.7 mm.	1864-1878	n = 5	n = 37
.8 mm.	1865-1878	n = 14	n = 20
	ca. 1905	n = 1	n = 1
.9 mm.	1866-1876	n = 3	n = 5
	1894-1905	n = 4	-
1.0 mm.	1866-1878	n = 3	n = 2
	1888-1907	n = 31	-
1.1 mm.	1873	n = 2	n = 2
	1888-1932+	n = 70	n = 25
1.2 mm.	1889-1930+	n =104	n = 7
1.3 mm.	1893-1929	n = 12	n = 4
1.4 mm.	1896-1902	n = 2	-

Mount Height

Nine heights of stereoscopic cards have been encountered. They include three variants of what may be called "short": that is cards with standing heights of 8.2 cm. or less, those with heights of 8.3 cm., and those of 8.5 cm. What might be called "standard" has a height of 8.6 to 8.8 cm. (ca. 3 1/2 inches). "High" mounts are known in five variants: 4 in. (10.15 cm.) high, 4 1/16 in. (10.3 cm.) high, 4 1/3 in. (10.9 cm.) high, 4 3/8 in. (11.13 cm.) high, and 4 1/2 in. (11.7 cm.) high.

Short: Darrah (1964:42) notes that the Kilburn Brothers of Littleton, N.H., issued cards from the formation of their partnership in 1865 (Darrah 1964:41) until 1871 in a "narrower" (shorter) size than usual. Dated mounts available to me with a height of 8.2 cm. or less (n=6) range from "Dec. 11 1863" to a Kilburn Brothers mount which Darrah (1964:42) says comes from between "early" 1869 and some time in 1871.

Available 8.3 cm. high mounts (n=2) occur without any identification. They probably date in 1855, for they share with an 1855 view (Darrah 1977: 20) a unique decorative motif, that motif being a single line surrounding the entire double-image-containing paper.

Available dated examples of the 8.5 cm. high mounts include one bearing a notation of the First Prize in an 1865 Berlin international photographic display, and another of The Hague, bearing a manuscript ink date of May 2nd 1867; an additional mount is of Central Park, New York, issued in 1868; while the latest example seems to be a "Union Pacific Rail Road Stereoscopic View," with a back dated by Darrah (1977:14) as 1869-70.

Standard: What is designated above as "standard size" seems to be the "3 1/2 x 7" inch size; see accompanying Figure 2.

The earliest occurrence of a 3 1/2-inch high mount of which I am aware relates to a comic stereograph showing "CRINOLINE DIFFICULTIES," apparently, a topic typical of "ca. 1860" (Darrah 1977: Figure 59). Darrah (1964:42) states that the Kilburn Brothers adopted their wider mount in 1871. The latest "standard size" mount seen is a dark grey Keystone View Company mount bearing a shot of Black miners in Johannesburg's Crown gold mine; it has on its label the phrase: "The world output for 1932...."

High: As far as I am presently aware the high sizes were never produced outside of the United States. The only foreign views on high mounts which have been seen are produced by U.S. publishers.

Darrah's (1964:15) reproduction of the 1876 Wilson, Hood & Co. price list gives the sizes of 4 x 7 inches (10.15 x 17.8 cm.), 4 3/8 x 7 inches, (11.13 x 17.8 cm.), 4 1/2 x 7 inches (11.3 x 17.8 cm.), so we may conclude that at least those high cards were known at that date. Measurement of reproductions of full and half mounts on the assumption that they are 7 inches and 3 1/2 inches long respectively allow the height of published illustrations of mounts to be established.

The earliest known 4 x 7 inch mounts were issued by Lovejoy & Foster, of Chicago, showing scenes of the "Great Fire in Chicago, Oct. 9, 1871" (Earle 1979: 37, top; 39, top), and, therefore, date from 1872, or possibly late 1871. (See

Figure 2. Standard stereography of "Cashes, or Indian Acorn Storehouses." Forty-six other views listed on back of mount are Yosemite, California scenes, as presumably is this image. Photographer not noted. Mount is 8.8 cm. (3 13/32 in.) high by 17.7 cm. (6 29/32 in.) long; 1.1 mm. thick. Original purple mount color same on front and back: on back, now darkest, Munsell 7.5P7/4; darkest on front, but somewhat lightened by fading, Munsell 7.5P7/2; lightest at edges from fading and water staining, Munsell 5Y8/1. Mount probably dates from the 1870s.

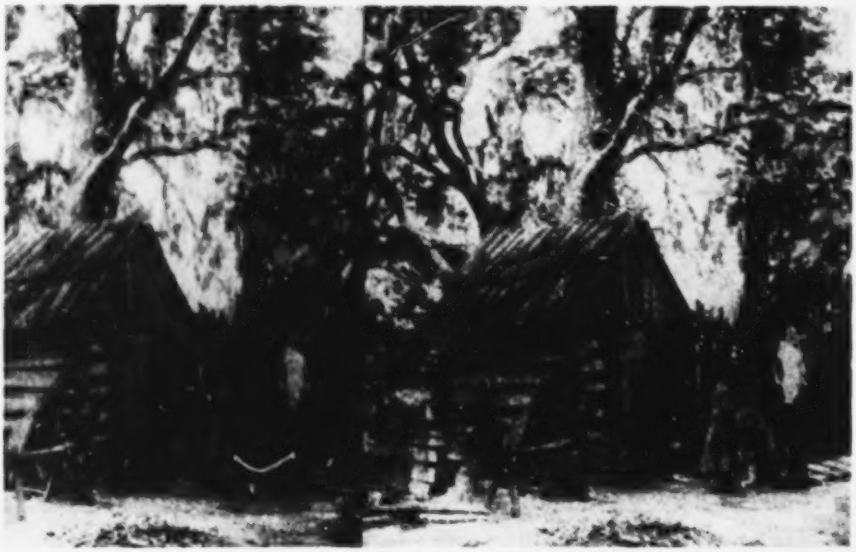

Figure 3. High stereograph, labeled "69. Plantation Scene; They go to the Barn to Grind the Ax. PUBLISHED BY J. N. WILSON. Nos. 143 Broughton and 21 Bull Streets. SAVANNAH, GA." Mount is 10.0 cm. (3 15/16 in.) high by 17.7 cm (6 31/32 in.); 1.0 mm. thick. Original yellow mount color same on front and back, unfaded, approximately Munsell 2.5Y8/7. Scene probably dates from the 1870s. Note girl in view wears an African hair style.

accompanying Figure 3 for an example of a 4 x 7 inch mount.) Also of the 4 x 7 inch size are cards of the "EXPEDITION OF 1871 [by] 1st Lieut. GEO. M. WHEELER" (Earle 1979: 41, top), although one should note that Darrah (1977: 92, #137) attributes these cards to an 1873 date. Certainly by 1873 the 4 x 7 inch mount was known in the United States.

The late end of the 4 x 7 size is defined by a mount printed to receive "J. S. JOHNSTON'S SERIES OF AMERICAN STEREOSCOPIC VIEWS," which has affixed to it a view with an 1892 copyright (Earle 1979: 71, bottom). One 4 x 7 inch stereograph mount owned bears the manuscript date "April 1, 1897," but has been used to mount a nonstereoscopic photograph. The only foreign images known on high cards are in the 4 x 7 inch size. They derive from a series showing scenes in "AZORES, MADEIRA, and PORTUGAL," produced "by M. Goulart, New Bedford, Mass," and copyrighted in 1897.

A mount which seems to be approximately 10.3 cm. (ca. 4 1/16 inches) high is known with an image on it datable to 1884 (Earle 1979: 35, bottom).

Another mount apparently 10.9 cm. high (ca. 4 1/3 inches high) was used by the Niagara Falls, New York, photographer, George Barker, for some of his "Barker's Stereoscopic Gems of American Scenery" and is known with an affixed view copyrighted in 1889 (Earle 1979: 77, top).

Hayden Expedition mounts are known in the 4 3/8 inch height (Darrah 1964: 90; 1977: 93, no. 139), as are mounts showing photographs from the Wheeler Survey (Darrah 1977: 92, no. 138), both having been published in 1873. The book Points of View (Earle 1979: 51, middle and bottom) reproduces what appears to be a 4 3/8 - inch card of an event occurring on April 10, 1879. No later date for this card height has been encountered.

A 4 1/2-inch wide mount is known issued by "J. W. Powell and A. H. Thompson," bearing a photograph taken by J. K. Hillers of the "Grand Canyon of the Colorado River" (Darrah 1977:93) and probably dating from 1873. Darrah (1977: 97, no. 146) reproduces an 1877 photograph of Santa Fe, N.M, issued by W. Henry Brown, and an 1878 shot

(Darrah 1977: 99, no. 149) published by the Continental Stereoscopic Company (Darrah 1977: 99, no. 149). An 1873-1878 date bracket is suggested for the 4 1/2-inch high mount.

Rounded Corners

Darrah (1964: 19-20) states that round cornered stereographs were introduced in 1868. However, one stereograph mount owned bearing the label and corresponding scene for "Crinoline Difficulties"--an item which must date around 1860 (Darrah 1977: 59, Figure 73)--also has round corners. Close inspection of the one unbattered corner of this mount shows its rounding to be asymmetrical, probably a sign that the corners of the mount were rounded by hand-cutting at some time. Analysts dating stereographs by their corner rounding should be careful in checking the details of the cutting for straight sections, asymmetry, or other signs of hand-cutting.

Square-cornered mounts were apparently not available from the U.S. big commercial photographic suppliers after 1870 (Darrah 1964: 19-20). However, square corners are known on stereographs produced apparently by an amateur as late as the dark grey mount period of the late 1890s and later.

Persons attempting to use mount corner form for dating should be warned that corners on thin, brittle mounts were easily battered to roundness, making it impossible to tell if the mount originally had square or round corners. Further, Darrah's dates probably do not apply to Europe, where rounded corners were probably introduced later, nor to amateur photographers who did not use round-cornered mounts or corner rounding machines.

Curved Mounts

"Warped" cards, that is a card curved from top to bottom, were introduced in 1879. Benjamin W. Kilburn held the patent rights (Darrah 1964: 18). Rapidly, their allegedly better three-dimensional image caused a general adoption. Large-scale commercial producers used the curved card exclusively during their 20th century production. However the few stereographs made by local commercial photographers and amateurs were sometimes mounted on flat cards.

Some flat cards long stored tightly between curved cards seem to have taken on their curve. However, most manufactured "warped" cards can be distinguished from such accidents by noting that the top and bottom edges of manufactured warped cards are not cut perpendicular to the curve, but form a sharper angle, while accidental "warped" cards have edges perpendicular to the curve.

Mount Color

The color of stereograph mounts changed sufficiently through time that the mount face and back colors in many instances have dating significance. However, some mount colors are not, at present, useful in dating, either because the beige and buff hues used are insufficiently varied to be easily distinguished or because the color of the mount (deep brown and purple) has not as yet been dated precisely.

White mounts (1854 - 1867 or later)

White mounts are associated with the earliest years of stereographic card production. Darrah (1964: 19) lists 1862 as the end of white mounts.

Matte white mounts: Data in Darrah's 1977 book tends to flesh out and somewhat expand the white mount period. An 1855 image of the Queen of England's arrival at the International Exhibition in Paris occurs on what is probably a matte white mount (Darrah 1977: 20); this mount shares its distinctive motif with a matte white one I own, showing images probably of the same exhibition. Matte white mounts were used by Sommer & Behles, of Rome and Naples, a partnership which Darrah (1977: 119) says was formed "about 1867" and lasted into 1874. However, it is to be noted that U.S. use of matte white mounts has not been confirmed as lasting after Darrah's 1862 date.

There are some distinctive decorative motifs on matte white mounts, which seem to have dating significance. Darrah (1977: 20) assigns an "1855" date to what seems the earliest of these border designs. Such mounts have a line around the whole double image, as though it were actually a single image.

Darrah (1977: 34, no. 47: 35, no. 48) shows another motif with a rectangle at the left and right of the double image, with a hair line rectangle within it and a single line between the rectangles both below and above the double image. This mount motif has been assigned to dates "1860" and "ca. 1865" (Darrah 1977: 121, nos. 181-182; 35, no. 48, respectively).

Gray, lustrous mounts (1854-1862)

Darrah (1964:19) refers to gray, lustrous mounts. I own one such mount, having a semi-glossy front. In clean areas, its gray is approximately Munsell (1966) 7.5Y7/2; in dirty areas, it is Munsell 7.5Y5/2. Its back is a matte manila; cleanest areas are Munsell 2.5Y8/2; dirty areas are Munsell 10YR6/2. This mount is .05 cm. thick; 8.66 cm. (about 3 1/2 inches) high, but only 16.0 cm. (6 3/4 inches) wide. Its topic-"CRINOLINE DIFFICULTIES"-is much like Darrah's (1977) Figure 59, which he dates as "ca. 1860." The narrowness of the mount--probably too narrow to remain in a Holmes hand viewer, invented in 1859--probably confirms this date. Darrah (1964:101-102) notes that the Frith views of Egypt occur on gray mounts from 1857 into 1859 and also in 1861 and 1862.

Yellow mounts (1858-1878)

Yellow mounts were in use during the 1860s and part of the 1870s. In 1964, Darrah (p. 64) wrote, apparently of U. S. mounts:

> For nearly a decade the majority of cards were issued on yellow mounts of several distinct shades, beginning with lemon or canary yellow in 1862 and 1863, through increasingly deeper chrome yellow until 1870 to 1872.

Darrah (1964: 19) seems to divide this mount group by indicating that round-cornered mounts were introduced in 1868. More detailed information is given by Darrah (1964: 42) on Kilburn Brothers cards, which are alleged to have started in 1865 with "light cream yellow" fronts, have adopted rounded corners in 1869, and have continued to be used until 1872.

Publishing in 1977, Darrah (p. 12) notes that "yellow was rarely used before 1858." He continues (p. 13):

> By 1858 enameling on one or both sides had become popular....In the 1870's some fine issues were given a thin wax coating to "waterproof" them.... Following the depression of 1873 and increasing use of cardboard made from wood pulp, enameling was limited to one side or omitted altogether. In the cheap reprint series, a thin yellow layer of paper or coating was substituted for the durable enamel finish found on earlier cards.

Darrah (1977: 35, no. 49) pictures a card from the "International Exhibition, London, 1862," on a yellow mount, indicating that at least that early such a mount was in use in England. Yellow mounts were fairly common in 1873 (Darrah 1977: 36, no. 50; Earle 1979: 39, bottom., 41, bottom; 51, top); while the latest yellow mount of which I am aware illustrates "The Great Mill Disaster, [Minneapolis,] May 2, 1878" (Earle 1979: 73, mid).

Narrower date brackets seem applicable to some sub-classes of yellow mounts. Data on these are below.

Yellow fronts and backs: The yellow sub-group which seems first to have come into vogue in Europe and then the United States has a glossy--or as Darrah says "enamelled"--front and back, being in clean areas Munsell (1966) color 2.5Y7.5/12; and in dirty areas, a color closer to Munsell 2.5Y7/12.

One ancestral family stereograph collection acquired in England includes many shots of Irish scenery, probably reflecting a single date of purchase. Included in this lot are both cards with yellow fronts and backs and cards labeled "Lakes of Killarney," a series which Darrah

(1977:110) attributes to William Mansfield, of Dublin, "in the later 1860's." Also relevant is a lot of four "E. & H. T. Anthony & Co." Yosemite cards bought at the same time from a Troy, Michigan dealer, presumably meaning that the original owner acquired the lot at the same time. One bears the Anthony address of 501 Broadway; three include the 591 Broadway address. Darrah (1964: 36) says this address change occurred during 1871. No other yellow fronts and backs owned (total n=7) contradict or extend such date assignments. That is, we may conclude that the subtype of yellow defined above includes a period from the late 1860s until at least 1871.

Yellow (Munsell 2.5Y7.5/12) front and dark buff back: The yellow subclass with the dark buff back can be dated with some preciseness. The one card available has a back in Munsell color 10YR6/4 and has printed on it "THE HOLMES STEREOSCOPE" and "JOSEPH L. BATES." Darrah (1964: 45) writes: "The famous Holmes-Bates label, either pasted...or printed on cards 1865-1868." Elsewhere, Darrah (1964:8) gives these cards the narrower date of "1866-1868."

Yellow (Munsell 2.5Y7.5/12) front and white back: The same ancestral English private collection which yielded the yellow front and back cards, produced other Irish views on cards with a yellow front and white back. This white back is about Munsell's 5Y8.5/1 in clean areas and 2Y8.5/2 in dirtier areas. Mansfield's "later 1860's" date, therefore, applies also to this sub-class of yellow mounts.

Yellow (Munsell 2.5Y7.5/12) front and light yellow back: One yellow card with a light yellow (Munsell 10Y8.5/2) back can be rather precisely dated by the unusual type face on its front. Reference to Darrah's 1977 work shows (p. 123, no. 187) a slight variant of this type at a "ca. 1868" date and exactly the same type face on two mounts attributable exclusively to 1872 (pp. 155, 162, no. 241).

Yellow (Munsell 5Y8.5/8) front and buff back: Another group of yellow mounts consist of those with a yellow front which in clean areas is Munsell 5Y8.5/8, and in dirty areas is Munsell 5Y8/8. It has a back approximately 2.5Y7/4. Mounts of this color combination include one with a cursive type face apparently not known before 1873 (Darrah 1977: 36, no. 50; 74, no. 108; Earle 1979: 67, mid). Also on this mount is a line of type closest to one on a mount relating to a "July 2nd, 1879" event (Earle 1979:45, mid). The three other available mounts of this type do not contradict a date sometime between 1873 and 1878, the later date being the latest precisely dated yellow mount.

"Red" mounts (1865-1882, 1888, 1897, 1900-1901)

Those which were called "red" mounts in the 19th century have a front with a glossy finish and a color which most Americans would call "orange," or more specifically "Chinese red" or "tangarine." This color seems originally to have been Munsell's 10R6/10, but today mounts of this hue are found dirty with the color changed to Munsell's 10R6/12.

Darrah (1964:19) dates red mounts at 1865 into 1882, suggesting that those with square corners come from no later than 1870 and those with round corners date no earlier than 1868. Darrah (1964:37) states that the "E. & H. T. Anthony" company adopted red mounts in "1872 or 1873" and terminated all stereo publishing "in 1880 (1881 ?)" (Darrah 1964:39). He (1964:62) notes that the Kilburn Brothers issued red mounted views between 1874 and 1877. The latest mount encountered in the main period of "red" mounts is a 10.0 cm. high one issued by "A.C. McIntyre, Artist," of Alexandria Bay, New York, which notes that "Rev. I.S. Bingham, D.D., is the president and manager of the Thousand Island Park Association." The Thousand Island Park was a Methodist resort; Rev. Isaac Sabin Bingham (1819-1893) was its president from 1881 into 1883 (Haddock 1895: 168d; see also Bingham 1930: vol. I, p. 303). Therefore, this "red" mount dates at least as late as 1881.

Brief revivals of red fronts are known for the B. W. Kilburn Company in 1888; Ben Cuyler, of Romeo, Michigan, in 1897; and B. L. Singley, working for Keystone View Company, in 1900 and 1901.

Red mounts occur with backs of several different colors, different back colors seeming to have dating significance. Encountered back colors are three shades of lilac or flesh, gray, gray with a blue thread, buff, and the same "red" as the front.

"Red" mounts with lilac backs (1868-1881): The most common lilac backs are glossy ones which when clean and mint--a rare condition today--approximate Munsell's 7.5RP7/6, but in their usual condition are dirty and between Munsell 5RP7/4 and 10RP7/4. Mounts of this front and back color combination include one with square corners issued by John P. Soule, of Boston, with captions of the type face which Darrah (1964:94) attributes to 1868. The latest mount encountered in this main period of red mounts with Munsell 5-10RP7/4 backs is the Rev. I.S. Bingham mount discussed above; it dates from at least as late as 1881. One mount of this type is a street scene of Bergen, Norway, with a manuscript label in Norwegian.

The earliest known revival of this red mount back color occurs on a 4 x 7-inch mount bearing the manuscript date "April 1, 1897;" its label reads "BEN CUYLER'S/ROMEO [Michigan] VIEWS." There is also a brief reappearance of mounts with red fronts and this shade of glossy lilac backs in 1900 and 1901. Three known examples all have the same italics captions: at the left end, "Keystone View Company,/Manufacturers and Publishers"; on the right end, "Meadville, Pa. St. Louis, Mo./Copyright, . . . by B.L. Singley." Their topics include Klondike views and Korean village scenes. The legend on the back of one bears a 1900 copyright date, although its front has an 1898 copyright date.

"Red" front with a Munsell 10RP6/6 lilac back: What seems to be another revival of earlier "red" mounts was issued briefly, possibly only in 1888, by Kilburn. They read at the right edge of the mount face: "Entered according to act of Congress in the year 1888, by B. W. Kilburn,/in the Office of the Librarian of Congress at Washington, D. C."

"Red" front with buff back (1872-1881): Mounts with buff backs seem to be the second most common "red" mount variety (n=15). When clean, their buff approximates Munsell 2.5Y8.5/2; in its common dirty condition, it is about Munsell 2.5Y5.5/4. Mounts of this color combination are all round cornered, establishing their date as 1868 or later.

One of the mounts of this group is an Anthony mount with a label and type face on it attributed to 1873 (Darrah 1964: 38). Two views of this mount type are labeled

"GLORIES OF THE YOSEMITE" at the left edge and "CALIFORNIA" at the right edge. Darrah (1964: 37) notes such labels as occurring on "E. & H.T. Anthony" cards, and also states that it was "in 1872 or 1873" that "Anthony adopted the red card mount." Darrah (1964: 39) gives a terminal date for Anthony production of stereographs as 1880 or 1881.

Blue, green, and violet mounts (1865-1882)

Darrah (1964:19) lists these mounts as having an occurrence between 1865 and 1882. Such a date range is probably much too broad for these colors; however, at present, dated mounts of these rare colors are insufficient in number to narrow their dates.

Pink mounts

Darrah (1964: 14) writes: "In 1866 several [American] photographers used...pink mounts, already familiar in England." An 1868 American mount has been seen with a glossy pink (approximately Munsell 10R8/6) paper surface on both its front and back. It is a scene of the recently completed U.S. Capitol, copyrighted by "F. H. Bell" and issued by "BELL & BRO., 319 Pennsylvania Avenue, Washington, D.C."

For many years, B.W. Kilburn used a "warped" mount with a distinctive pink (Munsell's 5YR8/4 when clean; 7.5YR7/4 when dirtied) matte front and back. The earliest Kilburn pink mount which has been encountered is one bearing the label on its front "Entered according to act of Congress, in the year 1887;" this stereograph shares with the red Kilburn mount the type face and label on its back. Such back labels are known only on cards with the notation "Entered according to act of Congress, in the year 1892," or earlier. One of these pink mounts has on it "3616. The Harbor, Hamburg, Germany/ Copyright 1884," but on its back is the Kilburn back label of the 20th century, negating the mount as dating from 1884. The latest copyright date on these pink Kilburn mounts is 1905.

Buff mounts (1879-1906)

Darrah (1964: 20) assigns a thick buff mount a broad date range. Subdivision of this group has not been attempted, in part because there is reason to suspect that Darrah may be including the Kilburn pink mounts within this buff class.

Grey mounts (1893-1940)

Darrah (1964: 20) assigns the preceding dates. They represent the bulk of Keystone production, as well as that of other late publishers. Many variants of the color gray are involved.

Black mounts (1902-1908)

Darrah (1964: 20), likewise, assigns these dates.

Tissue Stereographs (1865-1875, 1895-1900)

Rare items in the United States are stereographs with images on tissue paper, held between thin cards to form the whole. Darrah (1964:20) notes that they were popular in Europe between 1865 and 1875. A few such items with pin-holes for windows and doors were made in the United States between 1895 and 1900 (Darrah 1964: 20).

Lithoprints (1898-1929)

In 1898, the introduction of an improved process for color printing, now called "lithoprinting," produced a sudden modification in stereograph production, as well as a sharp increase of post card availability in the United States. The color stereo views appeared on a thin cardboard (Darrah 1964: 20), many of which had a front with an olive green color (see Earle 1979: 64, bottom). Important ethnographic series concerning Japan and the Russo-Japanese War were published in this form. Darrah (1964: 20) indicates that lithoprint production ended in 1929.

Black-and-white Half-tones (1906-1925)

Darrah (1964: 20) specifies 1906 as the initial year of production for black-and-white half-tone stereographs. Such views of the 1906 San Francisco earthquake and fire are relatively common. By 1925, according to Darrah, such cards were no longer made.

CARTES-DE-VISITE (1860 - ca. 1890)

The carte-de-visite, "card photograph," or "card-picture" (Towler 1864/1969: 218) consists of a mount 10.17 to 10.50 by about 6.35 cm., bearing a thin paper photograph about 8.90 by 5.40 cm. It was patented in France in 1854 by Adolphe-Eugene Disderi (Newhall 1964: 49). The earliest U.S. photographs of this type occur in 1860; the latest dated U.S. item encountered comes from 1888, although the E. & H.T. Anthony & Co. 1891 catalogue lists the size (Pilling 1974: 11).

Border With Thin Lines (1862 - ca. 1866)

There are three slightly different border motifs consisting of two lines. The earliest--probably dating only from 1862 (an August, 1862, example is known) into 1864 (an August 27, 1864, cancellation is known)--consists of two equally thick (.3 mm.) gold parallel lines. See James D. Horan's Mathew Brady (1955: photo 277) for an example. A 1864 dated version with purple lines is known. The most common type (see Figure 4) bears a thin inner hair line and a somewhat thicker (.3 mm.) outer line. This variety is most commonly printed in gilt. Water damaging, as in Figure 4, causes the gilt to be reduced to a few flecks, leaving dark brown in most areas and deep green in other areas. One item seems to bear an April 25, 1865, date. This thin-line-hair-line motif has also been encountered in red; one such mount has on its back a revenue stamp of the 1864-1866 era, cancelled with the date "8/65." A light purple variant is known bearing a manuscript "Nov 1862" date. One example of a thin-line-hair-line motif in blue has been seen.

Figure 4. Carte-de-visite showing thin-line-hair-line motif. Only a few flecks of original gilt remain; motif now dark brown in some areas; dark green, in other areas. Mount is 10.16 cm. high by 6.15 cm. wide; .5 mm. thick. Mount is light buff. Photography bears on its back a light blue 2-cent U.S. "PROPRIETARY" revenue stamp, suggesting a summer of 1866 date for the image. Photographer was John Cadwaller, of Toledo, Ohio. Subject is Peter Navarre (1790-1874): born in Detroit; moved to Monroe, Michigan, area; then to Presque (now Toledo); wintered with Little Turtle near Fort Wayne, Indiana, from 1807 until 1812. In this shot of the 1860s, Navarre has dressed himself as he was when an "Indian Scout" in the War of 1812. Courtesy of Monroe County Commission Archives.

Single Thin Line Paralleling Edges (1870 - ca. 1876)

A new motif appeared on the American scene by September, 1870, consisting of a single line with either square or rounded corners depending upon the outline of the carte (Pilling 1978: 2). R. F. Heizer, Karen M. Nissen, and Edward D. Castillo (1975) reproduce such a motif on a card of Modoc Indians Schonchin and Jack, taken by L. Heller, and "Entered according to Act of Congress, in the year 1873...."

Wide Red Line Around Border (1880-1881)

A .16-cm.-wide red border around a carte is known for two items, one dated in June 1880, the other July 5, 1881.

Revenue stamp on back (1864-1866)

U.S. law required that all photographs, cartes-de-visite or stereographs, be taxed between September 1, 1864, and August 1, 1866. The presence of a tax stamp, discoloration from its removal, or a square the size of a stamp cut out of the back of a stereograph mount, all signal items sold in the United States in this period. The absence of such signs on a U.S. mount probably marks an item produced either before or after these dates. Occasionally these stamps are cancelled with an exact date. Darrah (1964: 24) suggests that the use of "PLAYING CARD" stamps for taxing probably means an item sold in the summer of 1866.

Thickness of Mount

As in the case of stereographs, cartes-de-visite mounts have varied thickness. Dated examples suggest the following date brackets (Pilling 1974: 12):

.4 mm. or less	1864-1870
.5 mm.	1870-1875
.6 mm.	1873-1884
.7 mm.	1879-1888

Note that the dates for cartes-de-visite mount stock thickness seem at no time to have been consistent with that for stereograph mount stock thickness.

Square vs. Round Corners

Square cornered cartes-de-visite U.S. mounts are known with dates as late as 1881. Round-cornered mounts first appear in the U.S. in 1868 (Darrah 1964: 19-20).

CABINETS (1880-1906)

The mount size around 6 1/2 inches high by 4 1/4 inches wide (16.52 by 10.8 cm.) is referred to as a "cabinet" photograph. The image on it is usually printed on thin paper measuring 13.97 by 6.35 cm. Taft (1938/1964: 323) states that the mount first became known in England in 1861 and in the United States in 1866. The earliest cabinet owned by the writer is of a thin (.5 mm.) cardboard and has on its front a brown (Munsell 10YR5/4) thin-line-hair-line border, appropriate for the late 1860s; its corners have been cropped, suggesting that they were originally square. Some indication of how rare such early mounts are in the United States is given by reference to the 196 date-bearing cabinet cards owned by the writer: the earliest on which a date occurs comes from 1878, then none date until 1881, from which year several mounts are known. Of the dated cabinets owned few post-date 1900. The latest dated American cabinet owned bears a manuscript "Mar. 29, '05"; however, an Elmshorn, Schleswig-Holstein, now West Germany, cabinet is owned with the manuscript date "Oktober 1918"; and a "1919" Beslau, now Wroclaw, Poland, cabinet has also been seen.

Face And Back Of Mount Of Different Colors (1880-1888):

Dated cabinets with faces and reverses of sharply contrasting colors include maroon mounts with grey backs and green mounts with grey backs.

Glossy, Flesh-Colored Mount (1880-1881)

Both cartes-de-visite and cabinets are known with a flesh-colored (Munsell, closest to 2.5R7/4, also close to 5R8/4, but slightly toward 7/4). This mount develops along its outer edge a gray spotting, which looks something like mold (Munsell 7.5R7/4).

Mount With Buff, Matte Front And Glossy, Cream-yellow Back (1882-1888)

The buff of the front has the Munsell color 10YR8/4, slightly toward a hypothetical 9/4. The back is Munsell 7.5Y9/2.

Maroon Mounts (1883-1888)

The fronts of these mounts range from Munsell 7.5R toward 7.5RP 2/2 to 2.5RP2/2. "Gold beveled edge" maroon mounts occur as early as 1885 and are still advertised in the E. & T. H. Anthony catalogue of 1891.

Gold Beveled Edge (1885-1892). See Pilling 1974: 12.

Straight, Square Corners With Scalloped Sides (1888-1890).

Oblong Panel At Bottom For Photograher's Signature (1888-1904)

Single-line, Round-cornered Border Lacking Impressed Border (1889-1896).

Gold Impressed Border Line And Lettering (1890-1892)

Dating such mounts is aided by one Kalamazoo, Michigan, photographer who not only impressed his name, but also the date of the mount (Pilling 1974: 14).

TINTYPES OR FERROTYPES (1856 late 1920s)

The "tintype" is an image on an enamel-like coating over sheet iron. Such items were variously known as "melainotypes" (Towler 1864/1969: unnumbered Neff advertisement at rear), "ferrographs," "ferrotypes," "gems," and "tin types." The process was patented in February, 1856, by Professor Hamilton L. Smith, of Kenyon College, Ohio, and rapidly transferred to Peter Neff, Jr., also of Ohio. By October, 1856, the 28th Annual Fair of the American Institute, New York City, issued a bronze medal for an image on a "melainotype": "Peter Neff, Jr. Cincinnati, Ohio" was given the award; his agent was listed as "E. Anthony ... 308 Broadway" (New York 1857:139). They became popular at least as early as the American Civil War (Taft 1938/1964:153-159).

Tintype bearing manuscript dates are very rare; therefore, such images are harder to date than paper photographs.

Carte-de-visite Sized Mount (1860 - ca. 1880).

Embossed card mount (1860 - early 1870s): Embossed card mounts were commonly used to hold tintypes. One has been encountered bearing the label "PATENT APPLIED FOR" and showing a Civil War officer; such a photograph probably dates before March 7, 1864, when R. W. Potter, of New York, was issued patent No. 46,699, for a "Picture Card Frame," being:

> a card provided in its centre with a raised frame in such a manner that an ambrotype, daguerreotype or other photographic picture can be placed in the cavity at the back of the card...(U.S. Patent Office 1867: Vol. 1, pp. 179-180; Vol. III, p. 134).

Most such mounts are impressed "POTTER'S PATENT MARCH 7, 1865." One mount of this type is known with both the March 7, 1865, date and a September 22, 1868, date. Reference to patent indices establish that on the latter date the patent of R. W. Potter was reissued to Garrett P. Bergen, of Brooklyn, New York (U.S. Patent Office 1869: Vol. I, pp. 58, 211; Vol. II, p. 802). Those tintypes on embossed mounts which lack any date are probably later than those with the renewal date.

Chocolate-colored

The patent for brown-colored tintypes is alleged to have been issued on March 1, 1870 (Taft 1938/1964: 163, 480). The relevant data are in the U.S. Patent Office entry (1872: Vol. 2, p. 151):

> 00,291. -Ferrotype Plate. - Horace M. Hedden, Worcester, Mass. Claim. - A ferrotype covered by a coating composed of linseed-oil and India red....

Plate Size

Advertisements by Peter Neff, Jr., of Gambier, Ohio, and George A. Chapman, of New York, at the rear of Towler's 1864 book list plate sizes of 1/9, 1/6, 1/4, and 1/2, plus "4-4." Floyd and Marion Rinhart (1969179) give measurements for the relevant plate sizes used by daguerrean artists and photographers before 1870. These are:

Size Name		Dimensions in inches	Dimensions in centimeters
Whole	(plate)	6 1/2 x 8 1/2	16.5 x 21.6
Half	(plate)	4 1/2 x 5 1/2	11.5 x 14.0
Quarter	(plate)	3 1/4 x 4 1/4	8.0 x 10.8
Sixth	(plate)	2 3/4 x 3 1/4	7.0 x 8.3
Ninth	(plate)	2 x 2 1/2	5.1 x 6.3
Sixteenth	(plate)	1 3/8 x 1 5/8	3.5 x 4.1

The earliest tintype plates known apparently occurred in these sizes; none of the sizes are known in Potter's Patent mounts, although both "ninth" and "sixteenth" size could have been accommodated in one. Two tintypes are owned which are held beneath an embossed mat with an elaborate scroll motif, the latter being a type which Welling (1976:24-25) identifies as mid-1850s through early 1860s. One plate measures 6.8 by 7.6 cm; the other, 6.8 by 8.0 cm. Photographic gallery owner Thomas Halsted of Birmingham, Michigan, stated that this size was a "sixth."

The smallest size tintype to become common was called by antique photograph dealers in 1980 a "gem." Inspection of specimens shows a size about 2.5 by 2.0 cm.: actual range, 2.28 to 2.72 cm. long by 2.0 to 2.07 cm. wide. Two examples of this plate size are found in a paper mount which bears the legend "PATENT'D OCT. 18, 1863, S[imon] Wing, 290 WASHINGTON ST., BOSTON." Reference to the relevant patent index entries (U.S. Patent Office 1866: Vol. 1, p. 726, No. 40,302; Vol. 2, p. 426) shows that the "metal plate" size consistent with the patent illustration is that of a 2.5 by 2.0 cm. plate. This size is also known on embossed mounts, both those having and those lacking the "POTTER'S PATENT" label, the latter suggesting a date somewhat after 1868.

The other Potter's Patent related size is approximately 5.0 to 5.5 cm. long and 4.0 cm. wide: actual range noted, 5.03 to 5.7 cm. by 3.8 cm. to 4.34 cm. This size seems to have been popular for a fairly long time. Of the eleven mounted examples known, none bear signs of a tax stamp, probably meaning all date after August 1, 1866. Another example is a chocolate-colored tintype in a Potter's patent mount, suggesting a date of 1870 or later; while an additional one has a label allowing it to be dated in 1873. To be noted is that quartering of this 5.0 by 4.0 cm. plate size produces the smallest plate size.

A relatively common plate size is 8.3 by 5.0 cm.: range, 8.3 to 8.74 by 4.68 to 5.56 cm. In the sample available, this size is associated with tax stamps. It is, however, known with the Potter's Patent 1865 alone, and also with both the 1865 and 1868 date.

Plate sizes which lack any affiliation with Potter's Patent include 4.0 by 3.0 cm., and 8.4 by 6.4 cm.

The 4.0 by 3.0 cm. size--range, 3.55 to 4.5 by 2.5 to 3.04 cm.--is known in an off-white embossed mount, suggesting that it may date as early as 1873, at present the latest dated off-white embossed mount. Of the five available plates of this size, four are in nonembossed later mounts.

The one 4.4 by 3.1 cm. plate known is on a post card bearing a Franklin "ONE CENT" green stamp first issued

December 2, 1908 (Scott 1979:57) and in use until only about August 1, 1912.

A plate size of 4.7 by 3.8 cm. is known in a nonembossed mount; more precise dating information is not now available.

A plate size of 7.2 by 4.9 cm. is known with a newspaper backing which bears a legal notice dated December 21, 1874.

A plate size 8.4 by 6.4 cm. is known in a tin-type envelope. The 1870 U.S. Patent Office index of patents (1872: Vol. 2, p. 132; see also Vol. 3, Feb, 22, 1870) includes an entry, as follows:

> 100,067. -PICTURE ENVELOPE. - Robert Price, New York, N.Y. Claim. - The combination of a picture and letter envelope in one, as described and shown in the drawing, for the purposes described.

Also known in a picture envelope--in this case, an embossed one--is a 10.0 x 5.8 cm. tintype.

Even larger plate sizes are known. The fashions shown in their images suggest 1880s. One such tintype owned measures 16.5 by 11.0 cm., that is, it is of cabinet size. The dress on the female in the image has the sleeve with the padding atop the shoulder, which first appears in a style magazine in October, 1882.

CYANOTYPES (1885-1915, 1987)

John Herschel developed a process to produce blue photographic images in 1842. However, it was not until about 1885 that use of this process became common (Pilling 1974:16). Ernest G. Covington (1986:27) cites an unnamed Eastman Kodak Company source as stating that Eastman manufactured "cyanotype" photographic paper only from 1906 into 1915. In March 1987, the writer received from one of his publishers a "cyanotype" photograph as a "proof" shot. "Cyanotypes" are also known as "ferro-prussinates," "blue prints" (Covington 1986:27), "blue tones," and "blue print photographs" (Pilling 1974:16).

HALF-TONES (1887 onwards)

The half-tone process of printing images uses a pattern of dots of varying size; the black-and-white newspaper photographs of 1987 are half-tones. The half-tone process of producing an image dates as early as 1877, when improvements by Max Levy, of Philadelphia, made mass production of half-tone images common (Landman 1942; Darrah 1977:53; Welling 1976:85). What looks to be the earliest half-tone reproduced in the Annual Report of the Bureau of Ethnology illustrates artifacts in Boas' 1888 "Central Eskimo" (pp. 513, 576). By the Seventh Annual Report full-page half-tones are included (Mooney 1891: pls. XXIV-XXVII).

PICTURE POST CARDS (1893 onwards)

Donald R. Brown (1977), of the State Library of Pennsylvania, has prepared a useful history of American post cards. In 1893, the "Official Souvenir Postal Card" was issued for the World's Columbian Exposition; this was the first American picture post card. On May 19, 1898, the U.S. Congress authorized the private printing and selling of what were to be called "Private Mailing Cards" (Brown 1970); however, it was not until July 1, 1898, that the corresponding special mail rate went into effect (Burdick 1954:10). On December 24, 1901, for a first time, officials allowed the label "POST CARD" to be used on U.S. mailing cards. On March 1, 1907, the U.S. government allowed messages to be written on the left half of the address side of the post card; what is called the "undivided back" era of U.S. post cards was over. From 1915-1930, U.S. cards had white borders around their image. From 1930-1939, U.S. picture post cards had a textured or "linen" surface. In 1939, the color printed post card or "chrome" was introduced (Brown 1977). During 1986, "Chromes" with colored borders became predominant in the United States.

COLOR LITHOGRAPHY (1898 onwards)

Although what appears to be color lithography is present as early as the Second Annual Report of the Bureau of Ethnology (Cushing 1883: pls. X-XI), the printing of multicolor items was revolutionized in 1898 with the introduction of multi-colored lithoprints. It was in that year that multi-colored stereographs burst upon the market (Darrah 1977:53; Welling 1976:53). Multi-colored post cards originated at the same time (Burdick 1954:5; Lowe and Papell 1975:15). The Detroit Photographic Company began issuing so-called "Photochrom" post cards in 1898, which was the same year that William Henry Jackson, noted ethnographic photographer joined their staff (Burdick 1954:3; Lowe and Papell 1975:15). The related Detroit Photochrom Company label appears on an 1899-1901 so-called "1000 series," which includes a view of Acoma Pueblo (Lowe and Papell 1975:37), what may be an Adam Clark Vroman photo of a "Moki [Hopi:A.R.P.] Indian Woman Making Pottery" (Lowe and Papell 1975:29, 37; Newhall and Edkins 1974:52); and "An Opium Smoker" (Lowe and Papell 1975:33).

PHOTOGRAPHIC POST CARDS (1900-1986)

This variety of post card is a major type of ethnohistorical source, because it was easily produced by the amateur photographer, as well as the local commercial photographer. Few collectors have attempted to seek out the locally-produced Indian post cards, which sometimes bear dated messages and/or postmarks, locality of origin, and notes such as "I took this one down at the rancheria yesterday."

Photographic post cards are known from French North Africa as early as 1898. A Canadian VELOX photographic post card has been published with a message date of July 17, 1899 (Lawson 1983:7, 14). AZO post card weight was first listed in Kodak catalogues in 1904. (Pilling 1974:15); while at least as late as summer 1986, Kodak photographic post card stock was "still available" (Covington 1986:28).

Undivided Backs (to 1908)

As of December 18, 1903, the Canadian government allowed messages on the left half of the address side of post cards (Lawson 1983:13), thus marking the end of undivided back card production for Canada. In the U.S., only undivided back card were allowed until March 1, 1907.

A sample of 91 dated undivided back U.S. cards includes 89 from 1907 and earlier; two from 1908; and none from later.

E
LVX logo beneath photographer's head at left of card, Old
O English lettered "Post Card" over center of card, straight
lines make up stamp corner filled with caption "PLACE /- POSTAGE / STAMP / HERE" (July 17, 1899): See Lawson 1983:7, 14, being his Type "A" 1899-1900. This is the only example known; it seems to have been produced by an amateur photographer in or near Halifax, Nova Scotia. "VELOX is, however, an early U.S. Kodak trade name.

Same head of photographer at camera as in previous item, but in this case at top of stamp box over "PLACE / ONE-CENT / POSTAGE / STAMP / HERE" and across middle of card in Old English script "Private Post Card." (early; date uncertain): See Lawson 1983:14, his "Type 'B' 1901-1907"; his sample size is not given. Lawson's example labeled "Soures, / Prince Edward Island," Canada.

Solid "CYRO" script in stamp corner, with "PRINTS AT NIGHT" written in tail of "C" (April 1905 into AUgust 1906): See Morgan and Brown 1981:188, their number 1; their sample size was 4.

Same "CYKO" script, but in hollow letters, with no "PRINTS AT NIGHT" label; across middle of card top in hollow letters is "POST CARD" with an extra long right leg on "R" (July 1906 into October 1908): See Morgan and Brown 1981:188, their number 2; their sample size was 11.

Same hollow letter "POST CARD" as previous (August 1905 into August 1906): See Morgan and Brown 1981:188, their number 3; their sample size was 10.

Undivided back with sailboat in circle in stamp corner (April 1905 into February 1908): See Morgan and Brown 1981:188, their number 5; their sample size was 27.

Undivided back with sailboat in circle in stamp corner (April 1905 into February 1908): See Morgan and Brown 1981:188; their sample size was 10.

Undivided back with sailboat in circle in stamp corner (April 1905 into February 1908): See Morgan and Brown 1981:188, their number 5; their sample size was 27.

Undivided back with "THIS SIDE FOR THE ADDRESS" written in hollow letters (September 1905 into October 1906): See Morgan and Brown 1981:188-189, their number 11; their sample size was 8.

Same "POST CARD" label as sailboat stamp corner, but stamp corner is a black hand with a white "X" on it (during October 1905): See Morgan and Brown 1981:188, their number 6; their sample size was only one.

Undivided back with rectangle of stamp corner made up of lines of dots; word "ADDRESS" ends under left side of "R" in "CARD" (July and August 1906): See Morgan and Brown 1981:188, their number 8; their sample size was 5.

Same as above, but word "ADDRESS" ends under right side of "R" of "CARD" (September into December 1906): See Morgan and Brown 1981:188, their number 9; their sample size was 3.

Same as above, but word "ADDRESS" ends under center of "R" (August 15, 1906, into October 1907): See Morgan and Brown 1981:188, their number 10; their sample size was 11.

Undivided blue ink label on back (July 15, 1906, into July 1907): See Morgan and Brown 1981:188, their number 4; their sample size was 17. See Covington 1986:27 for discussion of Eastman Kodak Company's "Ferro-prussinate" photographic paper.

Same "POST CARD" label with hollow letter "THIS SIDE FOR ADDRESS" ending beneath the left side of the "R" and a stamp box with "VELOX" defining each side of the box (December 1906 into November 1908): See Morgan and Brown 1981:188, 189, their number 17; their sample size was 8.

Undivided back with "ARTURA" fleur-de-lis stamp corner (October 1, 1906, into June 1907): See Morgan and Brown 1981:188, 189, their number 13; their sample size was 4.

"ARISTO" eagle stamp corner (April into December 1906): See Morgan and Brown 1981:188, 189, their number 14; their sample size was 5.

Divided Backs

Divided backs became legal in Canada on December 18, 1903 (Lawson 1983:13). See Lawson's 1983 article for the approximately dates of some Canadian divided post card backs. U.S. law made divided backs first appropriate on March 1, 1907; dates for U.S. divided back cards are given below. Also see illustrations of divided backs not listed below in Covington's 1986 article.

Divided back "AZO" with stamp corner wider than high (April 16, 1907, into October 1912): See Morgan and Brown 1981:188, 189; their number 16; their sample size was 109, with 100 of them being pre-1910.

Divided back "AZO" with labels "CORRESPONDENCE HERE" and "NAME AND ADDRESS HERE," slanted cross bar on "A" of "CARD," and diamonds at corners of stamp box (April 25, 1907, into September 1908): See Morgan and brown 1981:188, 189; their number 15; their sample size was 27.

Divided back "AZO" with upward pointing triangles in corners, hollow "POST CARD" with straight crossbar on "A," labels "CORRESPONDENCE" and "ADDRESS" (August 1909 into June 1911): See Morgan and Brown 1981:189, their number 17; their sample size was 11.

Same divided back "AZO," but labels "CORRESPONDENCE HERE" and "NAME AND ADDRESS HERE" (January 1910 into July 1918): See Morgan and Brown 1981:189, their number 18; their sample size was 77.

Divided back "AZO" with upper corners of stamp box with upward pointing triangles and lower corners with down pointing triangles (December 1918 into 1930): See Morgan and Brown 1981:189, their number 19; their sample size was 47, 41 being prior to 1923. Lawson 1983:14, his "Type 'H' 1918-1923+"; Lawson's card presumably shows a Nova Scotia scene. Covington 1986:26, his Figure 1.

Divided back "AZO" with squares at corners of stamp box (1926 into 1939): See Morgan and Brown 1981:189, their number 20; their sample size was 12. Covington 1986:26, his Figure 2; Covington alleges production "continued through World War II."

Divided back with a "VELOX" stamp corner, labels "CORRESPONDENCE HERE" and "NAME AND ADDRESS HERE," slanted crossbar on "A" of "CARD," diamonds at corners of stamp box, and dividing line between correspondence and address below "C" of "CARD" (August 19, 1907): my sample size only one. Type may be part of Morgan and Brown 1981:188, 189, number 21.

Same as above, but dividing line between correspondence and address below "A" of "CARD" (March 25, 1908, to February 16, 1914): my sample size is 14. Type probably the bulk of Morgan and Brown 1981:188, 189, number 21.

Same as above, but with squares at corners of stamp box (November 1907 into October 1910): See Morgan and Brown 1981:189, their number 22; their sample size was 8.

Divided back "VELOX" with diamonds in corner of stamp box, a straight crossbar on "A" of "CARD," and labels "CORRESPONDENCE" and "ADDRESS" (August 1, 1909 into February 1917): See Morgan and Brown 1981:189, 190, their number 24; their sample size was 14. My sample size is 3; all 1909.

Same as above, but upward pointing triangles in corners (September 1909 into May 1910): See Morgan and Brown 1981:189, 190, their number 23; their sample size was 3.

Divided back hollow "CYKO" script stamp corner, hollow "POST CARD" label at top center with extra long leg on "R," label "CORRESPONDENCE" begins under middle of "0" of "POST," label "NAME AND ADDRESS" begins under middle of "R" of "CARD" (July to August 27. 1907): See Morgan and Brown 1918:190, their number 25; their sample size was only 2.

Same as previous, but "CORRESPONDENCE" starts aligned with "P" of "POST" (August 1907 into August 1910): See Morgan and Brown 1981:190, their number 26; their sample size was 20.

Same as previous, but "NAME AND ADDRESS" begins under left side of "D" of "CARD" (May 1909 into July 1912): See Morgan and Brown 1981:190, their number 27; their sample size was 18.

Divided back follow "CYKO" script stamp corner but "P," "R," and "D" of "POST CARD" squared somewhat, and "CORRESPONDENCE" starts below area between "P" and "O" while "NAME AND ADDRESS" starts under right of "R" of "CARD" (July 1912 into November 1915): See Morgan and Brown 1981:190; their number 28; their sample size was 13.

Same "CYKO" stamp corner, same "POST CARD" label as previous; no other labels (October 1915 into 1927): See Morgan and Brown 1981:190; their number 29; their sample size was 6.

No stamp corner; solid letter "POST CARD" in central top, labels "CORRESPONDENCE" and "ADDRESS ONLY" (August 1908 into June 1911): See Morgan and Brown 1981:190; their number 30; their sample size was 15.

"KRUXO" stamp corner with "POST CARD" written in style with scroll at bottom of loop of "P," at top inside of "O," at top end of "C," and at top left of "A"; also labels "CORRESPONDENCE HERE" and "ADDRESS ONLY" (May into November 1910): See Morgan and Brown 1981:190; their number 31; their samples size was 6.

Same as previous, labels are "CORRESPONDENCE HERE" and "FOR ADDRESS ONLY" with "HERE" ending between "S" and "T" of "POST" (August into November 1907): See Morgan and Brown 1981:190; their number 33; their sample size was only 2.

Same as previous, but "HERE" ending under center of "T" of "POST" (May 1911 into March 1913): See Morgan and Brown 1981:190, their number 34; their sample size was 6.

Same unusual type face for "POST CARD" as previous; no stamp corner labels "CORRESPONDENCE" and "ADDRESS ONLY" (March 1913 into June 1922): See Morgan and Brown 1981:190; their number 35; their sample size was 13.

Divided back "DOPS" and "A" in "ADDRESS" to right of "D" in "CARD" (September 14, 1931 - May 11, 1944): See Pilling 1974:16; also see Covington 1986:27, his Figure 6.

Same as above, but "A" directly below left side of "D" in "CARD" (July 10, 1939 to October 15, 1940).

"POST CARD" above only right half of back (July 11, 1939-June 25, 1959).

"BKC" stamp box (July 15, 1940 into 1953): See Pilling 1974:16; also see Covington 1986:28, his Figure 8.

POSTAGE STAMP DATING

Not uncommonly post cards--whether photographic or not--are sent without dated messages and have cancellations too obscure to be read. In such cases, the postage stamp on the card may be the most precise means of dating. Reference to stamp catalogues easily establish the year when a stamp issue, or color variant, first came into use; however, the terminal date of the common use of generally-used stamps is not easily established. The dates for the stamps most used on post cards of a country can easily be established if a sufficiently large groups of dated cards are available.

Stamp use dates relevant to the issues most commonly used on U.S post cards are listed on the following page.

ZIP CODE DATING

Also relevant to dating post cards in the United States are the short vs. the 5-figure postal codes. Short postal codes are known on cards between July 17, 1945, and April 20, 1962, sample size being only 18.

DESCRIPTION	SCOTT NO.	EARLIEST DATE	LATEST DATE	SAMPLE SIZE
Franklin 1 cent, 1902 series	A115	Jan. 25, 1906	Aug. 03, 1910(a)	72
Franklin 1 cent, 1908-09	A138	Dec. 02, 1908(b)	Aug. 01, 1912	65
Washington 1 cent, in wreath	A140	Aug. 24 (1912(c)	Jun. 13, 1924(c)	52(c)
Franklin 1 cent, 1922-25	A155	Mar. 11, 1924	Jul. 28, 1941(d)	16
Washington 1 cent, 1933-54	A276	Jul. 29, 1938	Dec. 06, 1951(e)	47
Statue of Liberty 1 cent, 1940	A358	Jun. 03, 1941	Aug. 1945	9
Freedom of Speech 1 cent	A367	Jan. 03, 1944	Nov. 08, 1944	2
Washington 2 cent 1922-25	A157	Sept. 22, 1925	Sept. 02, 1929	10
Adams 2 cent, 1938-54	A278	Aug. 22, 1952	Aug. 17, 1954	5
Jefferson 3 cent, 1938-54	A279	Jul. 11, 1939	Jul. 09, 1945	4
Statue of Liberty, 3 cent, 1954-68	A482	Apr. 98, 1959	Apr. 20, 1962	4

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a. Four being 1909; only one being 1910.
b. Only one being 1908; issued December 2, 1908 (Scott 1979:57).
c. Only one being 1912; two being 1923; one being 1924.
d. Two from 1938; none from 1939 to 1940; one from 1941.
e. Including three from 1951; none from 1952-1957, and one from April 24, 1957.

COLOR PHOTOGRAPHY (1935 onwards)

By as early as 1905, Sergei Mikhailovich Prokudin-Gorskii was apparently producing color photographs (Allshouse 1980:xi). A photograph taken by him as early as May 1908 has survived (Allshouse 1980:31). By 1912, the monopack and color development were available commercially to those who wished to use them (Friedman 1944/1956:119). In 1925, a book called The History of Three-Color Photography, by E. J. Wall, appeared (Friedman 1944/1956:XV). In 1935, the Eastman Kodak Company introduced the first commercially successful color system under the label "Kodachrome," which was, in fact, a name used earlier by Eastman for another process (Friedman 1944/1956:108). Most color transparencies and photographs must be assumed to date from 1935 or later. The National Geographic Magazine introduced color illustrations apparently based on color photography in its February, 1936, issue; the conversion from a raw photograph seems to be attributed to "Finlay Photographs": the first five images to appear are of Maori (Moore 1936: pls. I-III). In the Associated Press photograph archives, the earliest color views are World War II kodachromes; however, it was after World War II before color photography became common (Colton 1980).

PRODUCING AN ADEQUATE ETHNOHISTORICAL RECORD

From the discussion above, it should be obvious that the uninformed scholar attempting to use early photographs for research purposes may easily omit important auxiliary data useful in dating such images. The following recommendations, if followed, should produce a more adequate record:

1. All copy negatives should be made so that a clear photograph is taken not only of the central image, but also all parts of the mount, card, or frame. Cropping can be done at a later time; it should never occur in making the copy negative.

2. A photograph or permanent photocopy of the reverse of the mount or paper of the original should be made. In cost cutting, some may chose alternatively to make extensive notes.

3. All labels illegible in the copy negative of either front or back should be recorded as fully as possible in supplementary notes.

4. The color of all mount faces, mount backs, and beveled edges should be specified exactly. If available locally, Munsell color designations should be used.

5. The exact dimensions of any card should be recorded; length and width of the paper, as well as the mount, should be specified; thickness needs to be carefully measured with calipers and recorded.

6. All data on a single image should be assembled and kept together. Auxiliary data should be groups by clear cross reference to the copy negative.

7. It is always to be remembered that the data on a specific print may be of major importance. A postmark, a label on the back, a card thickness, any one may add a significant element to the ethnohistorical record.

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THE UNREALIZED POTENTIAL OF REMOTE SENSING IN ETHNOHISTORICAL RESEARCH

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Remote sensing may be defined as the detection, recognition, or evaluation of objects by means of a distant recording device. The human eye and the radar-like system of the nocturnal bat are then remote sensors. However, the term generally refers to the use of aerial photography and non-photographic imagery obtained from cameras, thermal infrared scanners, side-looking radar and multi-spectral systems located in craft and satellites and utilized to record and analyze natural and man-made features.

It is no surprise that remote sensing technology, improved by the space sciences has become a vital tool for research in geology, geography, forestry, etc. The imagery and photography obtained from this technology provides a unique view of earth resources, often revealing patterns and features undetected by field work on the ground.

Although many ethnohistorians might feel that remote sensing terminology and technology represents a heady challenge, many closely related disciplines have incorporated this research tool: cultural geography (Avery 1977), ethnography (Vogt 1974), archaeology (Parrington 1983; Gumerman and Kruckman 1977), and history (American Society of Photogrammetry 1975:2029; Kedar 1958).

Remote sensing methodology began to experience a period of extreme growth and change several decades ago parallel with the advancement of ethnohistorical and archaeological theory and method. Many of the new techniques of remote sensing could be utilized to accomplish the new goals of these disciplines. The Society of Photogrammetry recently added an editor for archaeology and anthropology to manage the papers now being frequently submitted to the journal: Photogrammetric Engineering. Extensive bibliographies have been compiled listing the results of remote sensing and archaeology, anthropology and historical research. Since ethnohistorians share similar goals with these disciplines it would appear that a successful marriage between remote sensing technology and ethnohistorical research can also occur. This doesn't mean that ethnohistorians should mimic the traditional archaeologist and focus on the "discovery" and location of sites, buildings, trails, etc., nor the geographer who is generally more concerned with recording environmental data. But, I am suggesting that remote sensing technology be included in the ethnohistorian's special set of techniques and methods. David Rothman, an American History professor at Columbia University, remarked at a recent American History Association symposium that historians have a "sure eye for the trees." Aware of this long standing criticism, many historians, in an attempt to be more relevant, have moved towards New Social History in the past ten years utilizing methods traditionally associated with anthropology and political science. Ethnohistorians must also become more relevant; we have something of value to say. I am suggesting that ethnohistorians incorporate more temporal, spatial and environmental concerns in their research. In this regard there is no doubt that the perspective offered by aerial photography and imagery can be useful. For example, it can provide insight on the past condition of culture; and it can assist in identifying and analyzing cultural change over time. If ethnohistory methodology is distinguished by its eclecticism, if it involves cultural reconstruction, if documentary analysis is combined with environmental, archaeological, ethnographic data gathering methods, then remote sensing can play a major role.

Also inherent in remote sensing analysis is a new aerial perspective, a spatial perspective that will stimulate the researcher to ask new questions. Specific histories involve research of specific societies in terms of past events and cultural traits manifested in time and space. Remote sensing can be a valuable aid; photography and imagery can be useful in determining patterns and spatial relationships with surrounding cultures.

Historical ethnographies, the process of reconstructing past societies and cultures, has witnessed many changes. "Upstreaming", or the use of older informants, has declined in favor of examining documents. This has brought a shift in topical interests and the focus of kinship and religion has been replaced by the study of economic and political problems, land tenure among the Algonquins, potlatch distribution on the Northwest Coast, etc. (Leacock and Lurie 1971:498). Again, imagery and photography, and maps produced with these sources, can assist in this research. Understanding land tenure, horticultural practices, and hunting technology involves a full understanding of the environment. Aerial photography and imagery can assist in the identification of ecosystems, hunting trails, horticultural plots, and settlement patterns, sites, etc.

In summary, as unique ethnohistorical theory and method continues to evolve, and, assuming an increased relationship with related disciplines such as archaeology and history, remote sensing can have an important role to play. For example:

1. Remote sensing offers an improved vantage point, one that can assist in the evaluation and measuring of known patterns and structures not easily visible from the ground. This includes residence and settlement patterns, trade routes, and demographic information;

2. Aerial photos and imagery represent electromagnetic sensitivity beyond the capacity of the human eye and will aid in the search for "undiscovered" historical features and assist in site exploration;

3. Photos and imagery represent permanent recordings, actual historical records that can be analyzed. The first aerial photos date back to 1840 and many archives now exist that are easily accessible (see section below on archival sources);

4. Aerial photos and imagery can be utilized in field work as effective photomaps, necessary in pursuing the new ethnohistoric interests suggested by Trigger and Axtell;

5. Aerial photos and imagery can be used with informants to stimulate discussions often of a spatial and temporal nature. An excellent example is provided by Vogt (1973:57) where native informants, when provided with aerial photos, recalled additional information with a completely new perspective; and,

6. Inexpensive and accurate environmental maps can be quickly constructed and then utilized in ecological surveys related to ethnohistorical questions.

INTRODUCTION TO REMOTE SENSING

An ideal method of introducing remote sensing technology to the ethnohistorian would be to take a typical research project and examine the positive and negative aspects of various sensors such as photography or radar. Since comparative studies have only been completed in select ecological and geological projects, we are forced to use another approach. In this paper various sensors and their applications will be discussed, utilizing examples as closely related to ethnohistorical research as possible. This style of introduction must suffice until ethnohistorians more fully incorporate remote sensing methods.

Black and White Photography

Black and white (BW) photography is the most basic film process. The film has an emulsion of silver salts which become black metallic silver when activated by light energy. The light that is recorded on the file is the selective reflection of sunlight from the various phenomena photographed through the lens. The quantity of energy reflected from an object is a function of the incoming energy as well as absorption and reflective characteristics of the object. Therefore, if you are not utilizing pre-existing or archival photography, the planning of new photography for ethnohistorical research requires that light intensity, altitude (hence scale and resolution considerations), and the angle and direction of the photography be properly specified. As an example, black and white photo reconnaissance of the Estancia Valley in central New Mexico revealed Pleistocene and Holocene beach terraces of ancient lakes, and site locations were successfully predicted because of their similarity to terraces known to be occupied by Paleo-Indian hunters and gatherers. However, if the angle of light and refection from the terraces had happened to be parallel instead of perpendicular to the direction of photography, they might have remained undetected. Fortunately, proper photographic parameters were specified and the location of Folsom and Sandia sites were successfully predicted (Gumerman and Lyons 1971:127). Other cultural features can be distinguished on photographs because of short-term climatological phenomena such as snow and frost marks, damp marks and parch marks. Proper planning for some of these events is difficult because many factors that enhance patterns on the ground, such as hoar frost, rarely occur and are short lasting. Snow and frost marks, however, often create patterns which remain long enough to be photographed and mapped. An English town in Oxfordshire, deserted because of the black plague, was located in this manner (Langer 1964).

Some black and white airphotos reveal historical and archaeological patterns which may provide an insight into social and political organization, and also the way man changes his habitat. For example, Roman (30 B.C.) patterns of transportation, easily detectable on aerial photographs, were determined by the method of land partition, or centuriation, of farm land. Such patterns have appeared not only in southern Italy, but also in Tunisia, thus indicating similar settlement programs (Solecki 1960: 718). Another transportation system was delineated with black and white photography near Pueblo Alto in Chaco Canyon, New Mexico. Interpretation of these roads was improved by using photographs from different time periods, 1983 and 1959, and with different scales, 1:3,000 and 1 :32,000 (Lyons and Avery 1977). Again the delineation of the road networks provides important insights into intersettlement interaction.

The South Carolina Piedmont was the site of many historical events: early Indian contact and trade, Cherokee Indian and settler conflicts, pioneer settlement, the French and Indian War, the Revolutionary War, and the growth of the frontier. Using aerial photography and military manuals from the 1700's, Ellen Ehrenhard (1980), although unable to locate General Nathanal Green's Revolutionary War Camp, was able to predict with 90% accuracy other sites within the Ninety Six National Historical Site (1980:269).

In France, Agache (1964) demonstrated that black and white photography may efficiently record variations in soil color tones which are useful in detecting pre-historic and historic agricultural activity. Man, by altering the soil horizons, has also altered fertility and soil moisture acceptability. The patterns that result give clues to past agricultural areas as well as covered walls and structures. Vegetation marks identified from the air tend to be more easily recognizable in wet years, the most plausible explanation being that porous soils will dry out quickly, thus enhancing the tonal variations of the surface altered by man (Martin 1971:353). Needless to say, this process works in reverse since ancient landforms, such as river courses, can be located and dated by association with previously identified sites. Conklin (1967:119) found remote sensing valuable in his ethnographic search in Ifugao, northwestern Luzon. By combining information gleaned from informants and air photos he was able to examine field patterns and boundaries, irrigation technology, water sources, stages of swidden cycles, ritual pond fields, and ownership markers. It is important to note that Conklin had to combine data from both informants and photos following standard ethnohistorical methods before a clear understanding of the region's history and recent cultural change emerged.

Vogt (1974:57) attempted a similar project in the highlands of Chiapas, Mexico. Using black and white aerial photos he successfully mapped and described general demographic patterns in a 6400-square mile-area. To verify his research, he obtained exact data on settlement patterns and seasonal land tenure practices. Vogt claimed that various aspects of social structure could be derived from the standard spatial arrangements of dwellings; important ceremonial patterns or 'sacred geography' were identified and mapped; and quantities of census and genealogical data were rapidly built up from air photos with the aid of Indian informants. Aerial photography proved more valuable than expected by providing more precise ethnographic data, saving research time, providing large scale ecological analysis and the determination of trail patterns.

John Fraser Hart found aerial photos invaluable in analyzing historical land-use in Indiana. He used aerial photos and maps to study the impact of the Ordinance of 1785. By using USDA aerial photos from 1950-60 Hart was able to identify large northwest-southeast oriented lots granted to George Rogers Clark, and Indian reservations created by the treaties in 1818. Field work later substantiated his findings.

Agricultural practices, both ethnohistoric and prehistoric, have been analyzed by Parsons and Bowen (1966) and Broadbent (1964) using photos in the New World tropics. Parsons was able to delineate 160,000 acres of old agricultural fields in the San Jorge floodplain from photos. Many patterns were not visible on the ground. Using chronicle sources they reconstructed activities, land-use, and settlement patterns dating back to 1530 and earlier.

Lampert (1967) and Heider (1970) used aerial photographs to study the role of contemporary indigenous horticulture in highland New Guinea. Geoffrey Wainwright (1977) analyzed three successive settlements and tilled fields undetected on the surface. Collier (1975) used photos extensively in a study of land inheritance and land tenure in modern Mayan communities. Langer (1964) used pre-existing military photography to better understand the impact of the "black death" on English populations. He was able to locate abandoned English towns, a result of the plague, using soil stains clearly seen from the air. Hackenberg (1967) combined aerial photography and data-processing equipment and found these techniques useful in studying the Papago Indians of Southern Arizona. Historically and currently occupied Papago compounds were identified. By combining conventional genealogical inquiry, demographic and sociological data on individuals, and the ecology of communities, Hackenberg has created a method for studying what he calls the "total Tribe." He feels this method has potential both for longitudinal and retrospective studies of change.

Color Photography

By adding dyes and chemicals, the active silver salts in the emulsion can be made to react to varying wave lengths of light in the appropriate colors instead of shades of gray. For example, greenforming chemicals are activated by green wavelengths of 0.5 to 0.6 microns and are processed in such a way that part of the emulsion will become green in color. Normal three color film, which utilizes green, blue and red pigment, is often an improvement over black and white film for research because factors of hue and chroma are included in the film recreating near-normal vision. Since the eye tends to identify objects by color more than relative shade relationship, cultural features are more easily identified on color film. Color film is also more indicative of the natural environment and, therefore, is a valuable tool where ethnohistorical research involves environmental factors.

Color and BW films are effective complementary sensors, and simultaneous recording of the same locale with both film types may provide advantages of interpretation (Hammond 1971:551). For example, field patterns of possible Norse fortifications near Pierre, South Dakota, were discovered after a comparison of BW and color photographs (Smith 1968:386).

However, as useful as they are, conventional BW and color films are limited by their inability to detect wavelengths much beyond the visible portion of the spectrum, and thus record only a minute fraction of it. To use an analogy, if a graph of the entire electromagnetic spectrum were enlarged to three times the circumference of the earth, the portion representing that section to which the human eye is sensitive would be no wider than a pencil line. Normal photographic film is sensitive to wavelengths from 0.3 to 1.2 microns (Figure 1) and, although this is three times as sensitive as the human eye, it is still able to respond to only a small fraction of the information available in the entire spectrum. Therefore, other sensors must be used in order to even begin to explore the potential range of available data.

Infrared (IR) Film

Infrared film has both advantages and disadvantages when compared with normal BW and color film. The emulsion is sensitive in the red, green and near-infrared portion of the spectrum and also in the ultraviolet region below 530 millimicrons. By using a minus-blue filter (Wraten 12 or 15 or Kodak 89b) the ultraviolet region is blocked, leaving only the red and infrared wavelengths to be recorded. Under these conditions, the photometer or common exposure meter is of little value because the energy levels are beyond the registration levels of the meter. Therefore, as a guide, an ASA rating of 125-150 is recom-

Figure 1

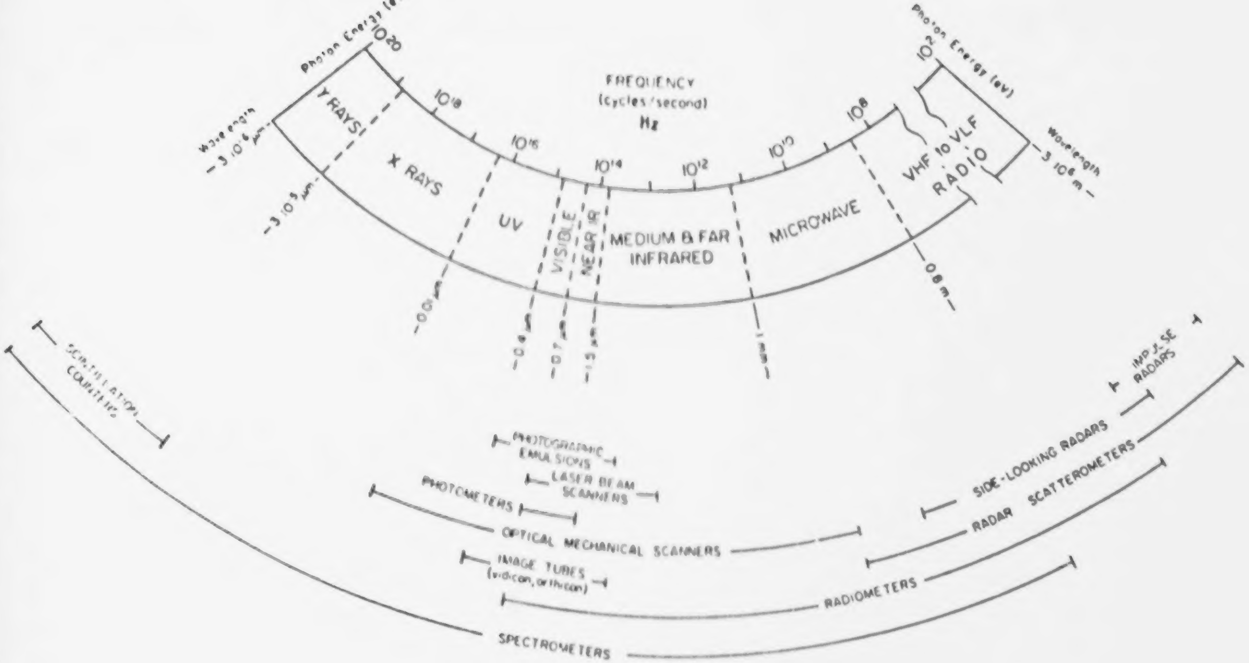
Photon Energy (eV)
10^20
10^18
10^16
10^14
10^12
10^10
10^8
10^2
Photon Energy (eV)
FREQUENCY
(cycles/second)
Hz
Wavelength
~3·10^-6 μm
~3·10^-5 μm
γ RAYS
X RAYS
UV
VISIBLE
NEAR IR
MEDIUM & FAR INFRARED
MICROWAVE
VHF to VLF RADIO
Wavelength
~3·10^6 m
0.8 m
0.01 μm
0.4 μm
0.7 μm
1.5 μm
1 mm
SCINTILLATION COUNTERS
PHOTOGRAPHIC EMULSIONS
LASER BEAM SCANNERS
PHOTOMETERS
OPTICAL MECHANICAL SCANNERS
IMAGE TUBES (vidicon, orthicon)
RADIOMETERS
SPECTROMETERS
IMPULSE RADARS
SIDE-LOOKING RADARS
RADAR SCATTEROMETERS

FIGURE 1. Spectral range for common remote sensing instruments (after Lintz and Simonett, Remote Sensing of Environment)

mended and under usual conditions 35 mm infrared film should be exposed with an aperture setting of f8 at a speed of 1/25 second in the air or 1/125 second on the ground. Since the infrared film records reflected sunlight, rather than heat emitted by the subject, it is regarded as a midday sensor and should be used between 10:00 a.m. and 4:00 p.m.

The value of black and white infrared film for ethnohistorical research that includes environmental data depends on the differential tone rendering of vegetation and landforms. Green vegetation appears much lighter than on black and white film due to the low absorption of chlorophyll in the infrared portion of the spectrum.

Because of an increasing need for an understanding of the contemporary environment as a means of reconstruction of past environments, a method for easy mapping of environmental zones should be employed at a scale congruent with ethnohistorical needs. Certainly, no better means of quickly delineating major environmental zones as well as subenvironments can be found than with aerial color infrared film or "false-color" infrared.

Since color IR film transfers differential reflective levels of energy to distinctive "false" colors, contrasts between varying surfaces are improved. Vigorous plant growth appears in various shades of red and in arid or semi-arid regions this bright red contrast provides clues to subsurface water and former springs. From such evidence, preferred areas for habitation, e.g., former shorelines, ancient lakes and springs, have been located on infrared film. Strandberg (1974) accepted a contract with the Maryland Department of Natural Resources in 1974 to study the mid-18th century Fort Frederick. The fort and surrounding land was studied using vertical infrared color photos and BW photography. Using this dual format and a standard stereoviewer Strandberg located important finds such as building foundations within the fort, three probable Indian village sites outside, and two stone fish-traps in the Potomac River. In a well-controlled test near the Guatemalan-Chiapas coast, where Coe and Flannery (1964) first utilized the concept of "microenvironmental zones", it was possible to delineate, quickly and accurately,(although subjective interpretations) the different "microenvironments" that these authors had described earlier (Gumerman and Neely 1972). No type of film tested so far gives such accurate delineation of small environmental zones. It must also be noted that while color IR photography records cultural features effectively, it was not very useful here, especially in the more vegetated areas. The true value of color infrared photography for the researchers, therefore, is in the construction of quick, inexpensive and accurate environmental maps which are becoming more and more valuable to the ethnohistorian.

Thermal Infrared

Thermal infrared instruments record energy in the 3-20 micron wavelength range. Since film emulsions are not sensitive to energy at this level, a thermal detector is used to transform incident radiation levels into electrical signals that can be recorded in various forms. Any object with a temperature above absolute zero will emit radiation at a level proportional to this emissivity times the fourth power of its temperature. The emissivity of an object is a ratio between the object's radiation and that of a similar black body, a surface that in theory completely absorbs all radiant energy. This radiation is altered by the filtering effect of the atmosphere. However, there are two regions or "Windows" in the spectrum, 3-5 microns and 8-14 microns, that allow energy to pass through the atmosphere with only slight restrictions. Thermal infrared recording instruments use a simple linescanning technique similar to that used to form a television picture. As the aircraft moves forward a rotating mirror scans the surface, one point at a time, and records the sequence of thermal intensities as fluctuations in the magnetic field on a recording tape. This is then used to reconstruct a two dimensional image on a cathode ray tube (CRT). The result can then be photographed from the CRT for a permanent record. Since the linear sequence of information stored on the magnetic tape can easily be converted to digital form, the data gathered by this technique is easily accessible to computer analysis. The limitations of using thermal infrared remote sensing include:
1. coarse resolution, not useful for large scale mapping, and
2. recorded emissivity of an object is highly affected by environmental effects, e.g. humidity, wet soil, etc.

Ethnohistory has potential use for thermal emission data. To date, however, little use has been made of thermal scanning techniques. Where this type of imagery has been employed in archaeological research to date, it has proved successful. Thermal scanning imagery was used in southern Italy to detect buildings and walls buried in sediment, but often such structures prove too deep to be accurately recorded (Steinmann 1970:84). However, prehistoric garden plots located in central Arizona within a volcanic cinder area were greatly enhanced on infrared scanned imagery (Schaber and Gumerman 1969). In the evening cultivated areas exhibited a higher radiant temperature than normal volcanic cinder and therefore became visibly enhanced. Subsequent field studies of the site produced corn and squash pollen which confirmed the agricultural nature of the plots.

Using infrared scanned imagery of the Nile Delta taken from a Nimbus I satellite, Jean Pouquet (1968) was able to map soils by organic content related to moisture capture and retention (moisture is critical for thermal infrared remote sensing). Such soil changes were due to ancient human occupation and, therefore, a paleo-pedological map permitted prediction of other site locations of similar occupation types. Lindgren and Marks (1977) in consultation with local Indian leaders have utilized infrared imagery to study Indian cemeteries, village sites, historical trails and original homestead sites in northwest California. Fanale (1974) and Reining (1973) also used satellite imagery in historical analysis.

Fanale combined Landsat (satellite) imagery with ethnohistorical methods to examine the historical use of Navajo range land-use. Using aerial photographs and ecological information gleaned from the imagery, she was able not only to survey 4,000 square miles of range land but also analyze the impact of the U.S. government "conservation era" on the Navajo land. Pre-1930 Navajo land-use was random and based on the genealogical structure of the clan, water availability, weather patterns, and simply which kin they wanted to visit. This traditional randomized practice, although probably ecologically sound, was dismantled by "conservation era" planning of the 1930's. Preliminary findings indicate that overgrazing was perhaps not caused by traditional practices but by outside constraints leading not only to poor land-use but also to further destruction of kinships patterns. Fanale used remote sensing to bring together several elements of Navajo culture---their environment, the way they perceive their surroundings, their settlement patterns, and social organization--into a coherent whole (American Society of Photogrammetry 1983:1298).

The size and tropical environment of the Big Cypress Natural Preserve presented special problems for Ehrenhard (1980). He solved these problems by using high-level color infrared imagery. By using color infrared imagery, informants, and archival maps he was able to predict with 80% accuracy sites that contained cultural material (1980:110).

Not all imagery applications are successful. Cooley and Fuller (1967) attempted to pinpoint submerged steamboats in Cut-Off Lake, Missouri, using Skylab photography and ERTS (later re-named Landsat 1) imagery. Neither format proved useful. However, using proton magnetometers and TR metal discriminators they did identify and map 19th century iron mines, hand-dug wells, and historical building-foundations. (See Parrington 1983).

Radar

Side-looking airborne radar (SLAR) differs from the previously discussed passive sensors because it produces its own electromagnetic waves. SLAR is effective in any weather situation, night or day. A frequency pulse is sent out from an antenna. Upon striking a target a portion of the energy is reflected back to the instrument where it is recorded. The returned energy is converted to a visible image on a cathode ray tube (CTR) and, by passing film across the tube at a proportional speed, a photo-like image is constructed.

Until recently, the resolution and pictorial quality of radar imagery has been inadequate for ethnohistory research. However, recent advances in the technology of radar imagery have greatly improved the technique and researchers who can obtain radar imagery should test it for its potential. In all likelihood, its value would be in identifying natural features, especially soil, drainage and topographical differences, as well as small scale cultural features on the landscape. It may prove particularly valuable in the tropics because areas never before photographed can be mapped since restrictive cloud cover does not affect radar. Adams et al. (1981) experimented with radar in El Peten, Guatemala in an attempt to provide a more reliable data base from which they can generate locational models and rules of settlement that would apply to relationships between Maya communities and local or regional landscape features. Data from radar surveys indicate large areas were drained by ancient canals that may have been used for intensive cultivation.

More recently Sever (1985) and Sheets (1985) used radar and lidar (light detecting and ranging instruments) to locate and analyze sites in the Arenal volcano region in Costa Rica. The imagery revealed roadways radiating from a central graveyard; this information not only led to specific site locations, but also to an understanding of the Arenal people's adaptation to a tropical environment plagued by volcanic eruptions (Newsweek 1986: 59).

Elachi (1982) provides an excellent description of various radar systems and suggests that:

> the ground-penetrating capability of radar sensors, which was recently verified by ground investigations, promises to have far reaching implications in archaelogical ... exploration of arid regions.

ARCHIVAL SOURCES OF PHOTOGRAPHY AND IMAGERY

One of the major reasons ethnohistorians have been reluctant to test aerial imagery and the variety of remote sensing instruments is the costs involved. If the researchers described in this paper were able to bear the cost of collecting the type of data, it would amount to a disproportionately high percentage of a research budget, if not all of it. At times, especially due to the historical perspective, archival sources will be preferred by the ethnohistorian. Often it may be more cost effective for investigators to spend more time and energy in the pursuit of existing sources of imagery than in acquiring new imagery. A solution to the problem is to search out data that have been obtained for other purposes, such as crop survey or highway construction from various time periods. A number of potential sources are discussed below.

Air photos offer invaluable information to the user, but often they are avoided due to lack of familiarity. Unlike maps, photos present an actual view of the landscape, and stereovision is possible due to the usual 60 percent overlap and 30 percent sidelap coverage. Inexpensive and easy to use equipment, such as height finders and stereoprets, allow almost anyone to construct maps from air photos with considerable accuracy. The major problem is in obtaining the appropriate photos. Many federal agencies are involved with remote sensing, but before the imagery can be ordered, the holding agency must be determined. To obtain this information without charge, write for the Status of Aerial Photography, from the U.S. Geological Survey, Department of the Interior, Reston, Virginia 22092. Once the federal agency which has the photography is identified, request an order blank and the name of the photo-index for the research by using the address on the back of the map.

To receive the desired photo-index title, the research area should be described in detail, giving the county location, the latitude and longitude, and the major river boundaries. Then, following the directions on the order blank, request the photo-index sheets. From the photo-index sheet order the specific photographs desired. The photo number, code, roll number, and scale can be obtained from the photoindex and must be specified on the order blank. Payment must be calculated and accompany the order.

The United States Department of Agriculture Soil Conservation Service also distributes aerial photographs for selected areas of the United States. Inquiries should be addressed to:

Cartographic Division
Soil Conservation Services
Federal Building
Hyattsville, Maryland 20782

All Soil Conservation Service photography flown prior to 1940, and several surveys flown through the period of 1940 through 1942 have been transferred to the National

Archives and Records Service. A list of 18 holdings and index sheets for ordering may be obtained by requesting "Special List Number 25."

The Forest Service U.S. Department of Agriculture also maintains coverage for many areas of the country. Inquiries should be addressed to:

Division of Engineering
Forest Service
USDA
Washington, D.C. 20250

In addition to the Forest Service, the Agriculture Stabilization and Conservation Service (ASCS), U.S. Department of Agriculture, holds aerial photographic coverage for portions of the U.S. Inquiries should be addressed to:

Aerial Photography Field Office
USDA - ASCS Administrative Service Division
2505 Parley's Way
Salt Lake City, Utah 84109

Most ASCS photography is secured at a scale of 1:20,000 and is on panchromatic film. All ASCS photographic coverage secured on nitrate film during the years of 1936 through 1941 have also been transferred to the National Archives.

The United States Geological Survey (USGS) also holds records of privately acquired aerial imagery. Information on where this imagery is presently stored may be obtained from Regional Headquarters:

Atlantic Region Engineer
USGS
1109 North Highland Street
Arlington, Virginia 22210

Central Region Engineer
USGS
Box 133
Rolla, Missouri 65401

Rocky Mountain Engineer
USGS
Building 25, Federal Center
Denver, Colorado 80225

Pacific Region Engineer
USGS
345 Middlefield Road
Menlo Park, California 90425

A guidebook explaining how to obtain information from the U.S. Geological Survey, Department of the Interior is now available. The guidebook will assist in obtaining USGS maps, reports, and other information products and aid in locating both general and specific unpublished information. Single copies of the 36 page publication, A Guide to Obtaining Information from the USGS, published in U.S. Geological Survey Circular 777, may be obtained free from:

USGS Branch of Distribution
1200 South Eads Street
Arlington, Virginia 22202

Recently, the USGS has established its own archives, The National Cartographic Information Center, which houses private and governmental photography. Historical (back to 1930) and current photography at large and small scale is available. For more information write:

Henry Svehlak
United States Geologic Survey
NSTL Station, Mississippi 39529

Many collections from other countries are held by U.S. agencies because they took the photographs for these governments, and often it is possible to obtain them from the agency concerned. In addition, several institutions have special collections. For example, the University of Wisconsin at Madison has Italian coverage and the Aeronautical Chart and Information Center, Washington, D.C., has Mexican coverage. Also recommended for Latin American coverage is the set of volumes, Annotated Indexes of Aerial Photography Coverage and Mapping of Photography and Natural Resources, published by the Pan American Union, Washington, D.C.

A number of organizations have been founded to carry out closely related research and can assist the ethnohistorian in archival searches: the Research Laboratory for Archaeology and the History of Art at Oxford; the Rheinisches Landesmuseum in Bonn, Germany; and, the Nebraska Center for Archaeophysical Research at the University of Nebraska.

Most ethnohistorians will find it more difficult to obtain and use remote sensing data other than photography. Innovation, ingenuity and dedication will be necessary to use such data fruitfully, but the major problem will undoubtedly center on procuring data in the first place. The U.S. Geological Survey and the National Space and Aeronautics Administration (NASA) are probably the most likely sources of the more exotic forms of remote imagery.

The USGS established a central depository at the EROS Data Center, Sioux Falls, South Dakota 57189. Due to the current "commercialization of space" mood of the United States congress the distribution of photography and imagery has been assigned to a private corporation, EOSAT. You may write for ordering information to:

EOSAT Corporation
Sioux Falls, S.D.
57189

EOSAT, INC. distributes data from the EROS program for most locations. They also act as consultants and assist researchers with basic problems. However, the USGS-EROS program still maintains a library and information center where the researchers may obtain reprints, reports and papers generated by the EROS program. A list of publication holdings may be obtained from:

USGS-EROS Program
Room 1032
801 19th Street, N.W.
Washington, D.C. 20242

The European Space Agency has placed in orbit sensors similar to the U.S. LANDSAT, their Systeme Probatoire d'Observation se la Terra (SPOT) has an excellent resolution

(10 meters vs. the LANDSAT 30 meters) and imagery from this system may be ordered from:

S.P.O.T. Image Corporation
1897 Preston White Drive
Reston, VA
22091-4326

Other sources of remote sensing data may be private corporations such as Bendix, Barnes, Dames and Moore, Texas Instruments, and HRB-Singer. They all have been generous in distributing imagery. To discover what imagery is available is difficult, because these organizations are not oriented to processing commercial orders. Often they are willing to help, but the researcher will have to depend on interested individuals at the data source and the good will of the corporation. For a survey of 130 potential private sources of remote sensing data write:

John McLaurin
Branch of Photogrammetry, USGS
1340 Old Chain Bridge Road
McLean, Virginia 22101

In short, the costs of collecting remotely sensed data can be extremely high. Nevertheless, means are available to obtain data that have been collected for other purposes at nominal or no cost. The search, however, can often be long and frustrating.

CONCLUSION

In conclusion, remote sensing, especially pre-existing archival black and white aerial photography, can be a valuable tool for the ethnohistorian. Through perseverance and the use of guides such as the Manual of Remote Sensing (Volumes I and II), and Remote Sensing: A Handbook for Archaeologists and Cultural Resource Managers (Lyons and Avery 1977) this technology can be incorporated in ethnohistory research. It has much to offer ethnohistory: new sites and patterns can be detected, oral reports can be verified, change can be measured through time, aerial photos or photomaps can be used as fieldguides or to stimulate the discussion of informants, new spatial and temporal perspectives might evolve, and environmental concerns can be incorporated more easily into research. This article has attempted to briefly summarize the characteristics of various sensors and to provide a guide to sources of photography and imagery. While these new methods will be difficult to utilize at first, the benefits to ethnohistorical research will be worth the extra time and energy. In 1860 when aerial photos actually provided us with a bird's eye view, we began to understand the earth in a new and exciting way; as remote sensing is utilized in ethnohistorical research we will increase our knowledge in the same fashion.

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ORAL HISTORY INTERVIEWS:
SOME HISTORY AND PRACTICAL SUGGESTIONS

MARGARET E. WILLSON
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What is oral history? A Catholic priest telling the words of the Gospels at the edge of a meadow in Ireland? An elderly Chinese contract worker talking about the ways he used to hang fish from the roof of his house to dry? Or one man telling another how when his father was a settler, he was such a good fighter, that during one fight he fell off a cliff, hit the bottom still fighting and when he bit off the other guy's ear, the two cops in town didn't do a thing to stop him?

All of these are pieces of oral history. The crux of oral history is that it is spoken, a communication that has not been written on paper, but still lives as a part of people's memories and lives. People's behavior, their attitudes, the actions that come from these attitudes: all these make up the oral history.

History can be regarded as a kind of ethnography. In an ethnography, parts of society are recorded in order to understand more of the nature of people. Likewise with history. History is important for what it can give people today; the study of history would not have survived if it did not have meaning for the living. Oral history gives "history back to people in their own words." (Thompson 1978:226) Oral history has forced the scholar out of his office and into the streets. It is vivid, right out in the open and full of all the excitement, attributes and failings that any person has.

Oral history as a data source and methodology complements the archival and document research used by ethnohistorians, anthropologists, and folklorists alike. The marriage of history and anthropology with its resulting progeny, oral history, has developed into the field of ethnohistory (Fenton 1966, Jennings 1982, Lurie 1961, Sturtevant 1966, and Trigger 1982). For the traditional historian, lost in dusty records and ancient archives, going out into the field to collect oral history would have been quite a culture shock. In the not-so-distant past the small numbers of historians who wandered into ethnohistory seemed like trespassers in a foreign land (Axtell 1979).

Because oral history is difficult to quantify or systematize, there are questions as to its reliability: the fundamental honesty of the product (Lang and Mercier 1984). How can one tell in oral history what is true and what is false? (For discussions on the reliability of oral history see Euler 1972, Lang and Mercier 1984, Musto and Benison 1970, and Sitton, Mehaffy and Davis 1983.) This same question can be asked of all history. The essence of history is people, and all people are bound by their cultural perceptions of the world. Documents, since they are written by people, share the same limitations. The words of people do not automatically become truth once they are transferred to the written page.

Oral history looks at a person's history from that person's own point of view rather than from the historian's. This unqualified personal viewpoint on the past is oral history's unique contribution to historical data (Lang and Mercier 1984). People may tend to view their lives, particularly their prime, through rose-colored glasses and see only the good. They also have a tendency, when asked to talk about the way people acted, to tell how people were supposed to act. Fishermen, when asked the techniques they used to pull their nets, will often tell the methods they were supposed to have used rather than the ones they actually did. (For a discussion of the importance of understanding and interpreting the personal viewpoint see Davidson and Lytles 1982:194, McNeil 1982:34, Thompson 1978:106-122.)

But is any of this either truth or untruth? Even rumor, by its very nature fictitious, can have bearing on people's behavior in history. For example, in one northwestern town, rumors have circulated for years about hundreds of Chinese who were drowned in mines beneath the bay. No Chinese were ever drowned beneath the bay (mainly because the Chinese wouldn't go into the mines), but still the rumor is widely circulated in the town over a hundred years later. This rumor may not say much about the facts of the Chinese in the mines, but it says much, not only about the people who worked with the mines, but also about the social change affecting their children and grandchildren.

The questions that concern oral history are not new and neither is its use. Many of the early histories were, of necessity, based on oral testimony. As early as the fifth century B.C., Herodotus relied on the oral, as did Thucydides in his History of the Peloponnesian Wars. Established methods came more recently, with a Berkshire rector accredited the first use of the questionnaire (Thompson 1978:32) and Sir Frederick Edan, in the 1790's, given credit for setting a precedent for the modern interviewer when he sent out:

> a remarkably faithful and intelligent person; who had spent more than a year in traveling from place to place for the express purpose of obtaining exact information agreeably to a set of queries with which I furnished him. (1797:ii cited in Thompson 1978:33)

Earlier, in 1765 the Governor of Newfoundland, Sir Hugh Palliser, requested a Moravian Labrador missionary to question the Eskimo on a wide variety of topics. The answers to this 18th century questionnaire provide rare description of the Labrador Eskimo (Taylor 1972).

During the nineteenth century British and German folklorists, imbued with the fever of romantic nationalism made use of oral history. Barnard (1965), Dorson (1968), Rearick (1974), and Stekert (1968) discuss the import of gender, nationalism, and folklore on the collecting of oral history. But this was an exception to the general trend. Overall, the use of oral history, particularly in Europe, lost respect during the nineteenth century. This attitude was caused largely by Leopold van Ranke and his followers who believed that oral history was "frivolous and not worthy of the serious scientific research." (cited in Harris et al. 1975:2)

If the humanities abandoned oral testimony in Europe for a few years, it continued to be used for the backdrops of literature by those like Charles Dickens who went into the streets of London to get information for his books (Thompson 1978:29).

In the United States, Hubert Howe Bancroft, in the 1860's, employed interviewers to collect personal histories of over a thousand California pioneers, while Washington Irving used oral testimonies of John Jacob Astor for his book Astoria (1887 cited in Harris et al. 1975:2) and interviews with Bonneville for his book, Captain Bonneville (1887 cited in Harris et al. 1975:2).

The field of anthropology made contributions to oral history under the influences of Malinowski and Franz Boas. Malinowski believed that although oral testimony had little relevance to the past, it certainly added to interpretation of the present. His attitudes sparked many oral collections during the 1920's and 1930's. During the first three decades of the twentieth century Boas sent out students eager to collect information on the diminishing North American Indian groups. Such attitudes led to a rush of excellent autobiographies including Paul Radin's Crashing Thunder. The United States government made use of oral testimony during World War II when it sent interviewers into combat areas, sometimes even to the foxholes, to record soldiers' war experiences (Hoyle, 1972:62).

All these early contributions to oral history made it possible for Allan Nevins of Columbia University to set up the Columbia Oral History Project in 1948 and to establish oral history as a study in its own right. Allan Nevins also introduced the use of the tape recorder to oral history. This gave greater reliability in that the raw material could be checked and also added greatly to the freedom of the interviews.

During the 1950's oral history began to regain prominence and respectability. Ireland, England and Scotland set up folklore studies on the life and dialect in certain parts of those countries. George Ewart Evans (1970) began to publish his books on the trade and people of East Anglia, based on oral collection, and in 1961, Jan Vansina published his respected work, Oral Tradition: A Study in Historical Methodology. In 1969, Ronald Blythe published the popular Akenfield: Portrait of an English Village, and in that same year, T. Harry Williams published his Pulitzer Prize winning Huey Long. The American Oral History Association was founded in 1966, the English Oral History Society in 1973, and the Oral History Association of Canada in 1974. The use of oral history for the school room was established with the south Appalachian series Foxfire I, II, and III (ed. Eliot Wiggington, 1972, 1973, 1975), and with the Ramah, New Mexico school publication Tsa' Aszi which explores Navajo traditions through oral history interviews (Sitton, Mehaffy, and Davis 1983).

On both the local and regional levels, oral history projects are coming from the professionals and the amateurs alike. Studs Terkel (1970) provides a fascinating report on the depression years; Beverly Hungry Wolf (1980) presents a multidimensional picture of the women of the Blackfoot nation; Morton (1973) gives an account of John Maguire, a traditional singer from county Fermanagh; Montell narrates (1970) The Saga of Coe Ridge: A Study in Oral History; and Anne Cameron (1981) has written the Daughters of Copper Women. Recently, anthropologists' court testimonies on Indian land claims have been based on oral interviews and archival research (Jennings 1982).

The 1971 edition of the Oral History Directory lists 230 established oral history programs in the United States. With the introduction of unrestricted transcripts being loaned by one research group to another, oral history may soon become accessible as never before. Amidst all this interest, the practical question arises, how does one do oral history?

The method of oral history causes much controversy among oral historians largely because the situations encountered in oral history are so varied. (For basic how-to-manuals and articles on interviewing techniques see Baum 1971, Dexter 1970, Fry 1968, Gorden 1969, Leach and Glassie 1968, Moss 1974, Sitton, Mehaffy and Davis 1983.) The beginning oral historian may take the following guidelines as suggestions which can help smooth the path in the collection of oral history.

Establishing the contact is sometimes the hardest part of the whole interviewing process. We sometimes tend to feel that we are intruding into people's lives, that they will snub us or be strange. Most people contacted for interviews are quite kind and actually welcome the opportunity to tell someone about parts of their life. The interviewer is tapping a lifetime's collection of thoughts, mistakes and wisdom. If what these people have learned can be preserved, many of them are happy to pass on their knowledge.

One young interviewer heard of a man who seemed to be a vital informant for the project she was working on, but this man was not only from a different ethnic group, but he was from quite a famous family as well. The interviewer waited for weeks trying to muster up the courage to call this man until finally the man heard about her and wrote a letter; "(I have been told) that I am hard to approach. It is news to me...Of course, I am approachable if time is given." (Jue, personal letter, 1979).

Since it is people the interviewer is contacting rather than trees or icicles, it is thoughtful to treat them with common courtesy and not forget their names or make an initial contact and then forget them altogether. A way to avoid such confusion is to make a list which includes people's names, addresses, phone numbers (unless they haven't got phones of course), a few words about why they were contacted and then the date they were contacted. As the list grows longer and confusion grows, the dates can be very helpful and alleviate possibilities of hurting people's feelings by forgetting them.

Once a list is started, it will always grow. Informants will know of other informants who will know of other informants who will---the point is clear. Compiling the initial list can be difficult. As with ethnography, the method that seems to work best is to go where people congregate and ask around. Particularly go to the places that are connected to the project's subject material. If the project is to make a film of old time logging in an area, the men who work for the mills are likely to know any early loggers who still live in the area. The supervisor of a mill is sometimes a good place to start asking for informants, for the supervisor, to have achieved his position, will have been in the area a few years and is likely to know of others who have as well. Contacting the supervisor first can also be a good public relations tactic. In larger communities in the United States there will be senior citizen's clubs, churches, ethnic clubs, veteran's clubs, women's clubs, and local historical clubs: all these can give the interviewer contacts.

Too little time and too many possibilities may pose interesting challenges. Often, instead of a name being given to the interviewer, she will meet the prospective informant and have to decide rather quickly whether to ask for an interview. Or perhaps she will have twenty informants of similar background without the time to interview them all and must choose the few she hopes will be best. Usually such choices are made with intuition, luck, serendipity and all kinds of unscientific processes, but when all these aids seem futile, some guides can help.

A well educated informant is not always the best because he has a greater likelihood of having read histories which could include one of his own area. It is possible that such acquired information would influence his memory.

A person who thinks of himself as an elder of a community will often make a good informant. These are people who have divorced themselves to a certain extent from the present culture. This does not mean that these people aren't involved with their lives, but rather that they have grown to accept themselves as old and are proud of that accomplishment. These people's memories are often considered and are important to them. When directed properly, these memories can give hours of valuable tape- time.

Once an interviewer has decided on a contact, she needs to prepare for the interview. Oral interviews are very important means of collecting history but they are certainly not the only way. Government documents, newspapers, journals and books have recorded much material which the passage of years has turned into history. This documentary information can be very helpful for the interviewer to know before she goes to the interview. For one thing, they can show how biased and misleading contemporary material can be. For instance, if the interviewer reads in early newspapers that an early group of immigrants were cannibals who not only boiled babies for the bones, but also made all their women into whores, she might like to question a few informants on the truth of these reports.

Documents can also give the interviewer some idea of what she is trying to talk about before the interview begins. This way she won't assume the validity of certain Indian fishing rights while interviewing a white fisherman who had his catch cut in half last year by court decisions which favored the Indian group. Such blunders can often alienate an informant. By knowing the documents, the interviewer can instead approach the matter delicately and learn the history of the politics behind both groups.

Prior knowledge of a subject can also aid an interviewer in the outline of her interview. If an interviewer doesn't know enough about a subject to realize what questions she wants to ask or what direction she wants the interview to go, she could very well end up being interviewed herself or perhaps spend two hours hearing the details of Marion Murry's latest kidney operation, details which could be fascinating but not particularly relevant to oral history.

Of course, an interviewer can go overboard and do such intensive research on a subject that she becomes the expert and the informant becomes tongue-tied when he realizes that he has cut mine shafts for over sixty years and seems to know less of the techniques involved than his twenty- eight year old interviewer. Even if the interviewer does in fact think she knows more about mining than her informant, she still might be advised to keep her mouth shut and let the informant tell the details again. He probably will add some information, depth or insight that the interviewer has never heard before. A well-researched interviewer can also use her knowledge to learn from what the informant omits as well as what he includes.

It is a good idea for the interviewer to treat her interviews as appointments with all the advance warning generally given to such commitments. This way she will ensure that she doesn't crash a wedding or, even more embarrassing, interrupt somebody's nap. During the planning discussion, the informant and the interviewer initially can work out a place for the interview which will be suitable for the both of them. A farmer may not feel the most comfortable being interviewed in a windowless office, while the interviewer, equipped with a tape recorder that will pick up surprisingly unobtrusive background noises, may not be happy interviewing at the local tavern. A compromise can usually be reached where the informant feels relatively comfortable and the interviewer has to contend with as few interruptions and background noises as possible. Some background noises that can be particularly harmful to the audibility of a tape are passing cars, a grandfather clock which ticks away the informant's words or the hum of machinery.

On the day before the scheduled interview, the interviewer might just call the informant to remind him that she will be arriving the next day and is looking forward to talking with him. This will help ensure that the interviewer doesn't drive twenty miles in the rain only to find that her informant has gone to visit his sister for the afternoon.

A local researcher has some definite advantages over other researchers in that she knows the area in which she is conducting interviews. This will give her built-in connections with the informants which can considerably improve the rapport. An interviewer who is going into an area she doesn't know, could do herself a favor by obtaining a local map, if possible, and by taking the time to walk around the area and getting to know the major landmarks. This way she will know that when her informant says he used to find silver coins in the old churchyard when he was a child, the interviewer will know that he is referring to the OLD ruined church on the edge of town rather than the nineteenth century church on Main Street which the locals call merely, the Church. An informant may also refer to landmarks that no longer exist, so the interviewer will still have to be careful with her questioning, but at least she won't appear such a stranger to an informant who thinks of most strangers as insurance salesmen.

If an interviewer is in a foreign country, get to know the people and the area using participant observational methods before beginning the taped interviews. After all, who wants to commit the faux pas of trying to interview a Buckingham Palace guard during his working hours?

The invention of the tape recorder has been one of the great additions to the field of oral history (Davis, Back, and McLean 1977). The tape recorded raw material is useful both to the interviewer who wishes to check her accuracy and to later researchers who wish to validate some point made in a publication. The tape recorder has become so important to the field that Willa Baum, in her excellent book Oral History for the Local Historical Society, defines oral history as: "the tape recording of reminiscences about which the narrator can speak from first hand knowledge." (1971:7)

Despite the tape recorder's well deserved popularity, the interviewer still has the choice of whether or not to use it. In many cases, such as when a verbatim report is desired or if the researcher is trying to capture linguistic information, the tape recorder is invaluable. In some other cases, the tape recorder can be a hindrance. In some communities, the tape recorder is regarded with distrust and the informant will become tongue-tied. This is particularly true if the informant is from an area where the tape recorder is an uncommon sight or if it has been used primarily for evidence in court cases. In certain climates, such as humid, tropical ones, the tape recorder is virtually useless (except maybe as a doorstop). Some countries have magnetic checks at entry ports which will destroy tapes and valuable interviews can be lost. In some cultures, a tape recorder will make the informant an orator and he will give the interviewer only information proper to that position.

Generally, a tape recorder, sometimes combined with additional note taking, is the preferred choice, but in those situations where the tape recorder must be abandoned, a ballpoint pen with pressurized cartridge, that will write upside-down and will not smear in water is a real asset. A pencil is inappropriate because it will fade, but in an emergency, it is better than a water soluble pen. Soaking rain, falls into rivers or puddles, and spilled liquids are common field hazards faced by notebooks. The best field notebook is of the sewn variety with water-repellent paper and a binding which can be clearly labeled. If the interviewer does not use a tape recorder, it is imperative that she transcribe the interview directly after it has taken place to record as much from her notes and memory as possible.

The tape recorder has the advantages that its memory is indisputably reliable and that it frees the interviewer from continually having to scribble notes. Once the interviewer decides that a tape recorder is best for the situation, she must then decide what kind of recorder will be her best aid. The recorder should be one that will record the interview clearly without having to shove a microphone into an informant's face. This problem can be solved by either using a small clip- on mike or using one of the recorders which have the microphone built into them. The choice of microphone depends on the informant and the situation.

Cassette recorders are made which have good sound, are simple to operate and are unobtrusive. The best tapes for recording clarity and durability, are no longer than 45 minutes per side (the longer the tape, the thinner it must be) with a wide frequency range and low distortion. The interviewer will want to be comfortable and experienced with the particular recorder she plans to use prior to the interview. Before the interview, the interviewer should check that the tape recorder is in working order and bring more tapes with her than she thinks she could possibly need. A tape can always go bad, the interview can go longer than expected, anything can happen and the interviewer needs to be prepared. Likewise the battery supply should be abundant, even if electric current is available--it only takes one collapsing tree to cause a blackout. Throughout the conversation the interviewer should remain attentive to pick up subtle cues of voice modulation, bodily movements, and spatial arrangements that no tape recorder or pen and notebook can record directly.

The part of oral history collection which makes many interviewers nervous is the interview itself. Here is where the interviewer's reputation is at stake. Botching one or two interviews is certainly not the end of the world but a good interview is exhilarating. Always bear in mind that the interviewee may be even more nervous. He or she too can be distressed or elated by an interview.

The crux of oral history is the interview and at the core of the interview is the informant. An informant is not a computer data base, but a person. It seems that this would go without saying, but in a society where we think in terms of cross-cultural input systems and other machine-like terms, it is easy to begin treating people as though they were machines. An informant may have a back problem which makes it difficult for him to sit for extended lengths of time or he may have been up most of the previous night birthing lambs; every interview offers a different situation and the interviewer needs to be sensitive to them all. A good rule of thumb regarding the length of an interview would be never to extend the interview longer than two hours and, in addition, to stay alert for any signs of fatigue which the informant may show.

An interviewer will want to put her informant at ease. A clinical approach is a good way to make an informant feel like an experimental pigeon, and for that reason, a set of pre-written questions is inadvisable. At the same time, a detailed outline of the interview will allow the interviewer to organize the discussion and cover all the specific points she came for. The outline, unlike prearranged questions, will give room for digressions. These digressions will often be valuable and at the end of a story or remembrance, the interviewer can gently steer the conversation back to the outline and continue.

The interviewer will often get more details from a person if she asks questions that relate to practices which the informant has performed a thousand times. A person may forget faces, places and names, but a fisherman will never forget the techniques he used when he hauled in his lobster pots or a pioneer housewife the tricks she used to make her soap smell sweet. Sometimes bringing a related physical object to the interview can jog an informant's memory and add detail to a description. For instance, a mending needle could be an excuse for a fisherman to tell how he wove his nets together.

In some ways, the spaces between the words of an interview are as important as the words themselves. Many interviewers feel nervous with silence because it is difficult to control and gives the interviewer nothing to do. But silence is not necessarily a sign of tension nor does silence of the mouth mean silence of the mind. Older people have more memories to consult than do younger people and this weighing of facts can take time. Silence is never a waste of good tape or time.

People tend to think of their lives in terms of events rather than dates, so discrepancies of time or place do not necessarily mean that a recollection is inaccurate. Most people forget dates easily. Notice how difficult it is to remember a first fishing trip or the year the price of a movie climbed over two dollars.

To get more accurate dates for an event, an interviewer can ask an informant to compare the event to another event for which the date is known. An example of this might be, "I remember that the Chinese stopped coming around these parts about the same year that the mayor had the old Imperial Theater torn down. Must have been close to 1910." In this case, the year the theater was torn down would be recorded and the date could be checked.

Sometimes, an interviewer may feel that an informant, who is telling her an event as true, may be quite inaccurate. It is rude for an interviewer, at any time, to tell an informant that what he is saying is wrong, particularly since he is referring to events that generally took place before the interviewer was born, so she needs to be discreet on further questioning regarding that event. The interviewer could preface her question, "I have heard that..." or, "I have read that..." and in this way give the informant a chance to either change his position or defend it.

By knowing the documentary material, the interviewer can use that knowledge to check the accuracy of the documents as well as the informant. Sometimes an informant will reveal the bias in a newspaper report. Or an informant may know information behind government documents which influence their accuracy. For example, an informant may know that a certain customs agent who for ten years wrote most of the existing customs records on the numbers of Chinese smuggled over the Canadian border, also found that he could triple his salary by smuggling the Chinese over the border himself. His motives could have some bearing on the numbers of Chinese reported crossing the border for those ten years.

Although an interview is similar to a conversation, it has some important differences. In an interview, the informant is the main character. The interviewer has the difficult role of supporting and encouraging the informant and yet remaining unobtrusive for the tape. If the interviewer can stay away from questions which can be answered with a yes or no, she will elicit more detail. Also she will tend to get a more honest answer if she can keep bias from her question. For instance, the question, "You are a liberal, aren't you?" is likely to get the answer, "Yes," and the interviewer knows that much already. But if the interviewer were to say, "What are your political feelings on this issue?" she allows the informant to decide for himself what he wants to say. An interviewer should also be aware of the patterns people use in their speech; if she gives a pat question she is likely to get a pat reply. The trick is to be provocative and at the same time not put words into people's mouths. What happens next is up to the interviewee and luck.

Once the interview is finished, the next step is to trade the tape in for a typewriter. The interviewer has already become accustomed to the informant's voice and knows the interview's content. This knowledge will help make the transcript more accurate. For larger projects where there are many interviews, the mammoth job of transcribing will ideally be done by people who can devote much time to just that job, as the interviewer will never have the time. In either case, whether the interviewer or a special transcriber types up the tape, it is helpful if the interviewer can review the tape the same day as the interview. This will allow her to use her memory to straighten out the sections of the tape which may be obscured or unclear. Transcribing an interview is a long job that can be tedious and take eight to ten times as long as the interview. Thus a transcriber should not be pressed to complete an interview in one sitting. Transcribing is a job that requires accuracy, not speed (Baum 1977).

Generally interviews are transcribed verbatim, omitting only the "ums," the "ahs," and stutters. False starts are generally recorded as they can reveal cultural attitudes of the informant or the subject matter. Unusual grammar can be valuable to the linguist and is also retained. The transcriber needs to be careful with punctuation and should reread the transcript to make sure that all meanings are clear. Names and dates also need to be checked for accuracy. The need for such accuracy is the reason some interviewers will take notes in addition to using a tape recorder.

While the tapes are not in use, they can be stored in a cabinet where they will be at room temperature and away from direct sunlight, dust or heat. When the researcher labels the tapes, it is helpful to include the informant's name, address, the name of the interviewer, the date of the interview and a few sentences which describe the contents of the interview. This will make research much easier for future historians.

It is a growing policy in the United States, that all transcripts are returned to the informant for their comments and approval (Welsh 1970). This allows the informant to make any changes he desires in either grammar or content. It also gives him time to place restrictions on any material that he may have divulged during an interview but doesn't want the public to see. When the project is completed and the tapes are donated to a local archive or oral historical group, these restricted tapes should be sealed and marked with the date of their release. This will ensure that mistakes regarding their restriction will not be made. Some people may want restrictions on sections of the interview for a set number of years; others may want segments of the interview restricted until after their death. All wishes of the informant must be followed. Even when interviewed in a non- literate area where such a policy is not possible, the informant must be made aware of how his memories will be used and his words should not be taken out of context.

This policy is out of respect for the informant and for the protection of both the informant and the research group. An informant will most likely read whatever contains his words and if he is displeased by what he sees, or finds it inaccurate, he will be understandably distressed. His distress will be unfortunate, not only because of the bad publicity it will give the oral history group, but most of all because a person's trust has been betrayed.

Since oral history is continually using material of people's personal lives, many oral historians are concerned with the possibilities of charges of slander and libel. In order to discourage such possible charges, many research groups in the United States have begun to use legal release forms (Kelly 1968). The legal release or "consent form" is a document which gives the interviewer rights, in writing, over material obtained from the informant.

There is some controversy over whether an interviewer is well advised to use such a document or not. An advantage of the legal release is that it can give protection against charges of libel. Although Supreme Court decisions currently indicate that any charge of libel against a respectable historian would be unlikely to succeed, (at present charges of libel must prove malicious intent and truth is generally an accepted defense against any libel suit) any charge, successful or not, because of its publicity, would be harmful to the reputation of an oral history group. A legal release might make an informant think again before he filed suit. Another advantage of the legal release is that it acts as a written permission with regards to copyright.

A disadvantage of the legal release is that it is often difficult to use. Many people will give spoken permission with no qualms, but when faced with a written legal document, they react with mistrust. Some informants will even refuse to be interviewed if forced to sign such a form. A legal release has the tendency to take the human trust away from an interview and replace it with the law. A legal release also takes some of the ethical responsibility away from the interviewer and throws it back to the informant. The interviewer now has written proof that the informant gave his permission to use the material and if the informant is distressed, he has little recourse but to reread his legal release. This is a danger mainly because the ethics of oral history are so important. A research group must take responsibility for the material it obtains.

Thus the legal release remains controversial: both the oral historian and the informant need protection in case one group acts selfishly at the expense of the other. It is up to the oral historian to decide what is best for the situation: to use the legal release or to keep all contracts oral. Additional discussion of the legal release, including a sample consent form, can be found in the following chapter by Bryan Page.

Preparedness, precision, flexibility, and a sense of adventure all serve the oral interviewer in good stead. Many interviews will be straight forward, and some disappointing, but, unforeseeable and unpredictably, a few interviews will take on a magic, a life of their own, and open wondrous doors of insight and understanding.

Oral history, with its access to collective memory, can make use of all five senses to explore the past. An eighty year old woman remembering her first county fair may recall the people standing hot and close, the feel of a dry summer's wind blowing over the surrounding hills wafting the taste of pine sap to the fairgrounds, the swirling dust and the smell of dried horse dung.

When people study another language, they may find that some of their categories of reality have changed. Oral history can do the same for history. Not all people think of history as chronological; not all societies think of history as the past. Through the movement of the voice, the emotions captured by the ear, the past is the present. When the future comes, oral history will show for them what life is now.

In late twentieth century North American society, with its emphasis on mass literacy, people are becoming increasingly visual, sometimes at the expense of their other senses. In this society, a person's appearance is what counts. In Malaysia, when a man is presented to the sultan, his dress is set; the man instead worries about his voice. His voice must be melodious, as pleasant to hear as a song. In early Ireland, some of the greatest gods were those who controlled the world with their voices. Now, with the help of the tape recorder, the aural can be remembered even by those who have little oral tradition. The oral will be written, which in some ways will destroy its fluid nature, but for those who are ill represented in written histories, the women, the farmers, the hunters, the fishermen, the workers who make up ninety per cent of any society, these people can be oral historians as well as informants and give to their children a history they have made.

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THE USE OF REMINISCENCES AND ORAL TRADITION IN THE STUDY OF ETHNOHISTORY

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BACKGROUND

Spoken memories and reminiscences have served as resources for historical research since the beginning of Western civilization. For reasons which we shall explore later, oral accounts of the past have sometimes fallen into disfavor among historians during the last 2500 years, but these spoken records currently are very popular tools in obtaining information on a wide variety of topics for which written documents do not supply adequate source materials. Local histories for which there are no written chronicles, accounts of "ordinary" peoples' lives during specific periods of history, reminiscences of "important" people, or people who knew them, industrial histories, labor union histories, and, important to our discussion, the histories of peoples who have no written tradition are all areas in which oral history data and research techniques have proven useful.

At the outset, we should make certain that oral history is not confused with oral tradition. Bornet (1955) offers the following definition of world history, which is too narrow for our purposes: "Oral history is a spoken reminiscence which has been recorded with the aid of a trained interviewer-historian in accordance with recognized ethical and procedural standards and typewritten under his supervision." We shall borrow from this definition, giving the name reminiscences to this variety of oral history. Reminiscences are accounts of the past "within the lifespan of the narrator." Oral history is more than reminiscences. Jan Vansina (1965), Alex Haley's principal mentor in African history, argues that scholarly, historical inferences may also be derived from oral tradition. Oral tradition includes stories and epic poems describing events which take place far "beyond the life span of the narrator." Oral tradition and reminiscences comprise the bulk of oral history materials housed in most oral history collections throughout the United States.

Oral tradition is not to be taken literally, and allowances for the narrators' cultural perspectives are necessary to make oral tradition a useful historical tool. Voltaire was apparently among the earliest scholars who became unwilling to make the necessary allowances (Thompson 1978:25-26). Perhaps this was because historical scholarship was moving toward more stringent requirements of written, chronologically continuous documentation. At any rate, oral history, both reminiscences and oral tradition, fell into disuse with only momentary revivals for the next two hundred years. Among the momentary revivals, collections of reminiscences by H.H. Bancroft in California and Lymon Copeland Draper in Ohio, and also by Jules Michelet in France laid the groundwork for the establishment of present-day, oral history methodology (Thompson 1978:39-40; Conway 1966:234). Although they conducted interviews a century before their methods came into widespread use, the work of these three pioneers notably reflects current directions in oral history. Bancroft's work is the apparent prototype of the "common man" approach to oral history. He interviewed "old-timers" who remembered early frontier days in California. Current examples of this approach include Terkel's works (1970, 1974, 1983), which describe what it was like to live during the Depression and what it is like to work in present-day Chicago, respectively. Draper's interviews concentrated on "an interesting band of worthies" in local and regional history (Conway 1966:235), an apparent forerunner of Nevins' approach to assembling the massive Columbia University Oral History Collection, which contains interviews with politicians, industrialists, and notable figures of all varieties. Michelet, like Bancroft, collected reminiscences of the "common man," and there are many examples of current work in oral history using similar methods, including Oscar Lewis' (1977) study of Castro's revolution from the "common man's" perspective.

Alan Nevins, the founder of the Columbia collection, is generally credited with the beginning of the flourishing American subdiscipline of oral history (Meckler and McMullin 1975; Cullom, Back, and MacLean 1977; Thompson 1978; Hoopes 1979), and these modern developments in oral history are closely linked to technical innovations in electrically recording and playing back the sounds of the human voice. From its beginnings in 1948, the Columbia collection, which is one of the largest and most varied of all the American oral history collections, has relied heavily on tape recordings. The development during the 1960's of simple, cheap cassette tape recorders removed many of the restrictions of expense and mechanical expertise from the collection of reminiscences and other oral tradition materials. Even undergraduate classes can carry out assignments in collecting reminiscences of Vietnam veterans or local politicians using the newly simplified recording instruments.

Publications in oral history since the mid-sixties reflect a sudden proliferation of oral history projects in the United States (Swain 1965), and point out the need for more systematic procedures of elicitation and cataloguing in this subdiscipline (Colman 1965). The National Oral History Association was founded in 1965-1966, holding its first national colloquium on oral history in California in 1966 (Dixon and Mink 1966). The Association has met every year since then to discuss new developments and reoccurring questions in oral history.

PROBLEMS

Despite the explosion of oral history interest and practice in the United States, there remain serious doubts among scholarly historians about its usefulness and reliability. In a critique of Vansina's work with oral tradition. Francis West (1966:352) expresses an emphatic preference for the "connected, chronological accounts of orthodox historians." This reasoning hearkens back to Voltaire's distrust of oral tradition sources because "they lose a degree of probability at every successive transmission" (Thompson 1978:25). This may be an oversimplification of what happens to oral tradition. We should recognize, as does Fontana (1969) that oral tradition formats are important deciding factors in the modification of narratives which are passed orally from generation to generation. "Free" formats such as histories and tales of the past are subject to errors of content because their retelling is relatively unstructured and open to the narrator's personal touches and embellishments. On the other hand, "Fixed" formats, such as ballads and epic poems, require the narrator to use metrical and rhyming and versified mnemonic devices in the retelling, thereby restricting the possible liberties to be taken by the narrator (Fontana 1969:367). We need only to look to the Bible's Old Testament, with its parallel constructions (where the narrator seems to say everything twice), or to the Iliad, with its compelling metrical and rhyme schemes, to find examples of fixed formats capable of conveying large bodies of historical detail across centuries of retelling before finally being written down.

Songs and poems obviously are also subject to alterations by artists in performance, assuming that such artists are adept in the rhyming and metrical conventions of their media. Facility in these skills may expand the artists' freedom in delivering a given ballad or poetic narrative. Nevertheless, that freedom is not as great as that enjoyed by the prosaic storyteller. Choices of words that fit metrical and rhyming schemes are narrow, when compared with choices of words to insert into (or delete from) more amorphous prose.

Probably more important to the integrity of oral tradition content is the context in which succeeding generations learn narrative songs and poems. Not every performance is carried by the listeners on first hearing to be repeated elsewhere. With few exceptions, only after repeated hearings of a song or poem is a prospective new performer of these media ready to carry them to a different audience. This requirement makes the momentary embellishment transitory, because such embellishments only survive by repeated audience approval. A performer may "throw in" an audience-pleasing reference to a local hero or place, but unless he or she does so repeatedly for several performances, the embellishment is likely to be lost. The issue of apprenticeship is also germane to the question of song and poem modifications by performing artists. A teacher of songs that bear oral history content may adorn his or her songs freely in public performance, but for the purpose of passing them to future generations, he or she may teach the new performer versions of the songs that are very close to those taught by the previous generation of performers.

These discussions amount to little more than conjecture, because there are no detailed ethnographic accounts of the teaching of oral tradition as it is passed from one nonliterate generation to the next. In all likelihood, most of the processes described above have obtained in one or another nonliterate culture in the intergenerational transfer of oral tradition. It is useful to keep these processes in mind when assessing a given material's value to a specific ethnohistoric task.

The process of transmitting oral tradition to succeeding generations is particularly relevant to the subject of ethnohistory, because ethnohistory requires exploitation of all possible resources on the part of its researchers. Oral tradition, despite all of its error-proneness by hyperbole, lack of chronological connectedness, ethnocentric perspective, and a host of other problems, is still too rich a source of information for the ethnohistorian to pass up.

Reminiscences, although they may be "connected" with historical chronology, also have reliability problems. The narrator, after all, is a human being who is likely to have prejudices and quirks which filter his memories and give a somewhat distorted perspective to his account. On the other hand, the Dollenbach experiments (Thompson 1978:101) indicate that long-term memory of factual materials has a fairly high degree of reliability. After a brief period of diminishing accuracy, factual content recall "levels off" and remains consistent for as much as forty years, with negligible further loss. This result helps to define limitations of reminiscences as historical documents, but it also tells us, in a general sense, that people's memories are not too bad. Cross checking several interviews focused on the same time period or event can help to avoid errors of prejudice or omission in the analysis of reminiscences. Areas of consensus among different narrators form a strong factual basis for historical inference, and rigorous cross analysis of different narrators' perspectives represents oral history at its best. This process is particularly important to ethnohistory because it takes into account and helps to document ranges of variability within a culture. Since no single human being is ever the repository for all of his/her culture's lore, multiple perspectives on the same topics are important.

Nevertheless, the oral historian often will not have more than one or two source persons from whom to elicit specific pieces of information. In these cases, background information on individual narrators, especially that background most germane to the interview topic, is essential for any future analysis. Most oral history methodologists recommend filling out standardized demographic and background information sheets for each contributor to an oral history collection. This kind of information can prove invaluable in sorting out the narrators' biases and idiosyncrasies while attempting to analyze their narratives.

Another helpful variety of ancillary information is the interviewer's written interview impressions and comments. An oral history interview contains many cues and messages which cannot be easily transferred to the typewritten page and may not even be evident in listening to the tape recording. The interviewer's comments can be an important link between the analyst's reading of the interview and the ultimate meaning the interview has for that analysis. The relationship between oral history and ethnohistory can be extremely complex, especially if no sources other than oral tradition and reminiscences exist for the culture or people in question. History, in its modern scholarly sense is very dependent on time references, which make it possible to "place" an event relative to other events that occurred a known number of years before the present. For example, we know that Pedro Menendez de Aviles founded St. Augustine in 1565. If a settler's journal were found saying that the first decent harvest for the colony took place three years after the colony's founding, this event, we could infer, took place in 1568.

Oral histories of nonliterate people seldom have this kind of direct relationship with our system of dates and events. Oral tradition and reminiscences often have quite a consistent internal logic, but analysts who attempt to relate events described in oral history to systems of historical dates must work very hard to find these relationships. When an apparent link between oral history narrative and date-grounded chronology is found, the logic of the link must not be too tortuous. For example, Mary Frances Johns (N.D.) reports that in 1948, a disagreement took place among the Miccosukees about adopting the white man's educational system. Her testimony is preferable to that of other Seminoles, because she has a birth certificate to place the exact date of the disagreement, using her age at the time as a reference point. Others of her tribe, having been born at large in the Everglades, place the time of the incident far less accurately, as the "time of the first missionaries" which was anywhere from 1945 to 1954.

Besides the problem of chronology, the problem of ethnocentric perspective is exceedingly complex in the analysis of nonliterates' oral history. Bernard Fontana, who supervised the collection of Indian oral history materials for the Arizona State Museum, reminds us that ethnohistories have lost much valuable insight by ignoring nonliterate peoples' own points of view (1969:366). Still, the analyst of oral history data must learn to recognize how those events relate to the present situation. For example, when an Indian tells an oral history interviewer that his ancestors sprang up from the ground right here, the interviewer may infer that the tribe had occupied this place for thousands of years but it would behoove him/her to take into account the tribe's ongoing lawsuit against the state claiming land based on prior occupation. On the other hand, Dennis Tedlock (Grele 1975:79) asserts that feeling the presence of one's people in a single place since the dawn of creation is an important perception for most people. The ethnohistorian confronted with these realities as well as archeological and documentary evidence may conclude that the people in question actually arrived where they are now a mere five hundred years ago, but he should also faithfully report the people's own perception of their arrival and its relationship to their present circumstances.

In dealing with nonliterate peoples' oral history, the differences between oral tradition and reminiscences may not be very clear cut. Tedlock (1975:107) contends, based on his experience with the Zuni, that oral history is poetry, whether it is within the range of the narrator's personal memory or outside of it. This may be particularly true in that reminiscences are the stuff from which oral tradition is made into performable material. An account of a narrator's own experience may be a prototypic performance of a story which will be passed to further generations. Such a story often contains many of the culture's oral tradition conventions for conveying emphasis and drama. Tedlock goes on to say that each tape recording of oral history material therefore should be preserved by the collector (1975:113), for simply to transcribe the recording and throw away the tape would be like making a pencil sketch based on a photograph and throwing away the photograph. For dissemination purposes Tedlock suggests a transcription format which indicates stress levels and pauses to give some idea of the actual performance style.

The main point of these last considerations is that oral history methods are capable of making a profound humanistic impact on the process of drawing ethnohistoric inferences. Not only can oral history tell you what happened and when, but it can tell you how people felt about past incidents and what meaning those incidents have for them now. The process of using oral history methods usually imbues the interviewer with a new appreciation for his narrators, whom he may come to revere. In fact, the experience of eliciting oral history, often leads to a greater reverence for humanity itself. In order to make best use of oral history materials, especially for the purpose of ethnohistory, the oral historian must become an astute student of the cultures in which his subjects participate.

ORAL HISTORY RESOURCES IN THE UNITED STATES

There are several bibliographies and reference works on oral history in the United States, and they offer the reader a survey of hundreds of oral history projects and collections in this country (see Shumway 1971; Meckler and McMullin 1975). Nevertheless, not all of the collections cited in these works are necessarily of ethnohistoric interest. The Columbia Collection holdings, for example, are dominated by autobiographical reminiscences of famous people, although they also contain a Chinese history section. Nevertheless, amid all of the local history and pioneer recollections projects, there are some solidly conceived and usably catalogued collections of ethnohistoric interests.

Particularly attractive to ethnohistorians of American Indian groups are the Doris Duke American Indian Oral History Projects, which receive individual attention in the following paragraphs. Beginning in 1967 and, for the most part, finishing their data collection process in 1973, these projects elicited, transcribed, and catalogued oral history materials from a wide variety of North American Indian groups. The participating institutions were the Arizona State Museum, the University of Florida, The University of Illinois, the University of New Mexico, the University of Oklahoma, the University of South Dakota, and the University of Utah. Because the information which appeared in reference works needed some updating, the following paragraphs contain a brief description of the current status of each project, including phone numbers and current location on their respective university campuses.

"Arizona State Museum Doris Duke American Indian Oral History Project."

Data collection ended for this project in 1973. Under the direction of Bernard Fontana, the project interviewers collected a total of 614 reels of oral history interviews, or about 600 hours of recorded material. According to the Museum curators, approximately one-quarter of this material is transcribed. Although the majority of the interviews were conducted in English, some were conducted in native languages. Predominant among the interviewees are Navaho Indians, but other Indian groups also participated in the project. The collection is catalogued by a State Museum cataloguing number system, and there are also listings by language used and by general subject headings.

"The University of Florida Oral History Program."

The Doris Duke Indian Oral History Project is one of several oral history projects undertaken by the Oral History Program which is housed in the Florida State Museum. This project began in 1971, later than most of the other Doris Duke projects, and is still underway. So far, interviewers have collected 177 interviews on Seminole oral history, comprised of 237 tapes, or 282 hours of recorded materials. More than 145 of these interviews have been transcribed into final, edited versions totalling some 3000 pages of typed manuscripts. The tapes are in Miccosukee or Cow Creek, the Seminole Indian native languages, but little of this material is in transcribed form. The usual format of the native language tapes is: English question, Creek or Miccosukee answer, and English translation of the answer. There are also six tapes containing Seminole songs in the collection.

"The University of Illinois Doris Duke Oral History Project."

Dr. Edward M. Bruner supervised the collection of oral history interviews from a wide variety of Great Plains and other Indian groups as far west as Wyoming and as far north as Canada, including Shoshone and Cree materials. The project ended in 1973, and its materials are presently housed in the University of Illinois Anthropology Department laboratory area.

"The University of New Mexico Doris Duke Oral History Project."

This project also ended in 1973 and is presently housed in the Coronado Room at the University's library. The librarian in charge there reports that the 982 tapes of the collection are completely transcribed, mostly in English, but also some in Navaho and Zuni, comprising some 20,000 pages of typed material. Among the Indian groups represented in the collection are the Zuni, Papago, Navaho, Apache, and the peoples of the Pueblos. Interviews in this collection are indexed by the place in which they were elicited, and each interview transcription has in its front pages a brief description of the topics discussed therein.

"The University of Oklahoma Doris Duke Oral History Project."

Data collection for this project ended in 1973, and its tapes and transcripts are now in the University Library's Western History collection. A total of 27 Oklahoma tribes contributed to the collection, including the exiled Eastern tribes (Chickasaw, Choctaw, Cherokee, Creek, Seminole, Delaware) and many Great Plains tribes. Interviews with these peoples produced 660 tapes containing 1200 hours of recordings. Most are in English but a few are in native languages. The tapes, which include some musical recordings, are not in the same part of the library as the 55 volumes of transcription, but may be found in the audio-visual section of that same library. The transcriptions are cross indexed by tribe (including a nonIndian category, and an intertribal category) and by subject matter. There is also a separate index based on the names of interviewees. It is possible through the cross indexing system to study some topics and tribes via correspondence.

"The University of South Dakota American Indian Research Project."

The Doris Duke segment of the University of South Dakota's Oral History Center stopped collecting interviews in 1973, but its holdings are still housed in the Center, along with those of several other oral history projects. Indians from 30 different tribes of the Northern Great Plains contributed reminiscences to this collection in 1068 interviews representing over 800 hours of tape recordings and roughly 18,000 pages of transcribed text. Approximately 40 tapes are in native languages including Lakota, Cheyenne and Chippewa, but only two or three or these have been transcribed. Some 120 English language interviews have not yet been transcribed. A subject index is the principal cataloguing mode for this collection. Also of ethnohistoric interest are 3000 interviews stored in another part of the Center which focuses on Dutch, German, Russian, and Scandinavian immigrants in South Dakota.

The University of Utah also has an ongoing Oral History Center which houses the materials elicited by the Doris Duke project before its end in 1973. Members of 40 different Indian tribes provided the 2500 hours of tape recorded interviews which form the basis for this collection. Navaho and Zuni materials are predominant in the collection which also includes Indian groups from the Northwest to Arizona. The collection has 20,000 pages of transcribed materials, some in native languages. The Library of Congress cataloguing system in use at Utah is complemented by separate tribe index card and a table of contents with 20 to 30 standard headings at the beginning of each interview.

Besides these extensive collections of American Indian oral history materials, there are also at least 30 other collections of ethnohistoric interest in the United States. These include Appalachian collections of East Tennessee State University, Appalachian State University, Alice Lloyd College, and the offices of Foxfire Magazine near Atlanta, as well as Jewish oral history collections in Cincinnati and New York, Chinese oral history in San Francisco and in the Columbia collection, and Black oral history at Howard University and in the Ohio Historical Society's archives. (See Meckler and McMullin, 1975 for state-by-state listings of oral history collections.)

From the brief descriptions of cataloguing systems listed in the preceding paragraphs, the reader can perceive that these collections differ in indexing their materials. The differences among these collections in cataloguing are not nearly so important in determining retrievability and accessibility as the presence of a librarian or staff member with sufficient time to help the interested scholar. It is therefore important for someone who is interested in using an oral history collection to contact staff members who are willing to help at the institution housing the collections.

There are many ways in which this kind of contact is helpful. A staff member who is familiar with the collection can explain the rationale of the filing/indexing system. A staff member can update legal release status of specific interviews and provide information necessary to obtain permission to use restricted interviews. Some interviewees place constraints on the use of their testimony, requiring the individual scholar to obtain personal permission to study their interviews. In some cases, interviewees require their interviews to be "closed" for a specific period of time or until their deaths. Interviewers also sometimes place permission restrictions on their elicited oral history interviews. A staff member who knows the collection can help you find out how to get these kinds of permissions, or at least explain why certain files listed in the catalog are not available for study.

Oral history index systems usually begin with an index of interviewees' names. A collection user not already familiar with the tribes or peoples that contributed interviews will not find names particularly helpful in focusing on a specific people or culture. Fortunately, most collections which have more than one contributing tribe or ethnic group provide crossindexing by group. Occasionally, non-Indians who have experience in dealing with Indians contribute interviews to oral history collections. In these cases, staff members can help the user decide whether such interviews are related to his/her study. For example, in studying Indian medicine practices, the user of the Seminole Oral History Project's files will likely be interested in the interview with Dr. Alfredo Mendez (N.D.) a Cuban doctor with years of experience in providing health care to the Seminoles. In the interview conducted by Tom King, Dr. Mendez expresses views of Seminole health care behavior and the use of Western medicine alongside Indian medicine.

Subject cataloguing in oral history collections ranges from a brief abstract at the beginning of each interview to the Library of Congress number coding system. A table of contents with rough listings of the pages which correspond to the listed topics is very useful when available. The University of Oklahoma's Doris Duke Collection has page/subject listings developed to such an extent that the librarian can answer specific requests for information by mail. Not all Duke collections have this level of retrievability, which requires the presence of at least one ongoing staff member. This is a budgetary problem, which probably is best avoided by placing oral history materials in collections that are large enough to necessitate the hiring of at least one full time librarian-archivist. The Florida, Oklahoma, New Mexico, Utah and South Dakota Doris Duke collections are in this kind of multiproject agglomeration.

ORAL HISTORY COLLECTION AND CATALOGUING

My principal experience with oral history has been through the elicitation, transcription, and coding of large bodies (15,000 pages each) of life history data from urban Costa Ricans, Cubans, and a multi-ethnic sample of women in Dade County, Florida. Some of the methods which my research teams have used in these endeavors could be applied more broadly to oral history recording and storage procedures, and they would in many cases represent an improvement. There are a number of good, recent texts on the "how to's" of oral history data collection (Hoopes 1979; Thompson 1978; Davis, Back and MacLean 1977) which explain how to find and recruit good narrators (Hoopes 1979), how to ask the questions (Thompson 1978; Dexter 1970), and how to convert the taped interviews into typed pages (Davis, Back, and McLean 1977). There are two areas upon which these texts do not concentrate, and so I shall devote some space to them. These unemphasized areas are rights of the narrator, and subject indexing of narrative.

Rights of the Narrator

Practically all of the oral history handbooks and "how to" articles contain instructions on composing forms to obtain blanket permission for study and publication of a narrator's interview materials. My own background in working on medical questions in health care institutional settings has led me to believe that it is not enough simply to "hustle" an interviewee into agreeing to contribute his/her personal information to my study. A consent form (See Illustrative Form A) should contain the following elements: 1) An explanation of the purpose and scope of the interview; 2) A reminder of the narrator's right not to be bullied into answering questions he/she does not want to answer; 3) An assurance that the interviewer will abide by the narrator's restrictions on release and publication of interview texts; 4) At the bottom of the form, a list of possible restrictions on manuscript release for the interviewee's approval, including unrestricted release to the collection for publication and/or quotation, release to individual scholars by narrator's verbal (i.e. telephone) permission, release to individual scholars by narrator's written consent only, unrestricted release after years, unrestricted release after narrator's death, release by permission of narrator's family to individual scholars after narrator's death, and an "other" alternative with sufficient blank space for the narrator to write in specific restrictions; 5) The use of language which will be understandable to the interviewee; 6) A stipulation that the interviewer promises no direct benefits to the interviewee as a result of participation in the study; 7) An assurance that the interviewee will not attempt to publish all or portions of his/her narrative until five years after the interview (Bornet 1955:250); 8) Signature and date blanks for both the narrator's and the interviewer's signature.

A form following these guidelines is more forbidding than forms recommended in Hoopes (1979) or Davis, Back and MacLean (1977), and it may be no less subject to misunderstanding, but it represents the author's forthright effort to help the informant understand the purpose of the interview, and his own rights. It also protects the author from later problems through misunderstanding. Before any taping is done, this form should be already signed by the narrator and the interviewer. Such a procedure will result in some refusals, but a large percentage of signees are likely to grant unlimited release. In studying human beings, it is always far better to have a willing and interested subject than a suspicious and reticent one.

The Illustrative Form A - Informed Consent uses a generalized structure for the informed consent form into which the researcher may sert specific project matter.

Handling and Subject Indexing of Narrative Texts

Microcomputers have only begun to have an impact on the recording and storage of textual materials, but that impact will take much of the tedium out of managing extensive texts. Before microcomputers, there was little advantage to computerizing thousands of pages of text. Mainframe systems were not easily accessible for day-to-day use, and storage procedures were cumbersome and costly. The microcomputer's word processing software has made electronic entry and editing of texts easy for the computer amateur and resulted in cleaner, more accurate transcriptions of oral history materials. The principal storage medium for microcomputers, the floppy disk, reduces the need for storage space for back-up copies. One disk, five-and-a-quarter inches across and as thick as four or five sheets of paper, can store about 250 single-spaced pages of transcribed text. An entire disk may be copied electronically in less than five minutes, easing the production of multiple back-up copies of precious 'documents.

The microcomputer's power in manipulating textual materials will also have an impact on the analysis of oral history materials. Some word processing software have indexing features which allow the analyst to search through texts for key words. Such a facility can ease the task of searching for specific content areas in long texts. Nevertheless, a key word search facility is not to be confused with a content search facility. Identifying thematic content and pinpointing the appearance of key words are not identical functions. A narrator may make reference to an important theme without ever mentioning a key word, such as religion. For example, the interviewee may say, "I believe strongly that the one who controls our lives has good purposes in his heart" but this passage does not mention a god or religion or a supreme being. On the other hand, an interviewee who says, "My sex life is between me and God" is not necessarily making a statement about God or religion. This is the key distinction between keyword searches and thematic content coding: a computer cannot code text for content; it can only indicate areas of text that contain words that may be related to content areas.

This discussion leads naturally to the subject of coding for content. I recommend that any project attempting to collect and analyze large bodies of textual material develop or choose a system for coding those materials for thematic retrievability. Davis, Back and MacLean (1977:80-86) suggest several different subject indexing schemes as possible bases for cataloguing oral history subject matter. They suggest the Library of Congress, Sear's (public library system), and the Readers' Guide to Periodical Literature systems, among others, but they omit the Human Relations Area Files' "Outline of Cultural Materials" (Murdock et al. 1961). The "Outline of Cultural Materials" contains 647 subject categories which catalog a broad range of human activity and biology.

For the purposes of many studies, this system may be abbreviated, allowing for detail in areas of concentration while retaining a sufficient range of categories to allow for a holistic interviewing approach. Use of the holistic approach entails investigating the relationship between the specific phenomenon under study and the total human experience. For example, if we are studying drug use patterns, a holistic approach will require us to ask questions

ILLUSTRATIVE FORM A - INFORMED CONSENT

We recognize that individuals' memories can make a significant contribution to historical knowledge on specific subjects. The purpose of our particular project is to:

____

____

This research is necessary in order better to understand

____

____

To accomplish this understanding, we need the cooperation of voluntary interviewees. The interviewer will answer any questions that you might have regarding this study and your participation in it. This interview may touch on personal or sensitive questions, but you are free to refuse to answer sensitive questions as you see fit.

The interviewer will abide strictly by the restrictions you choose to place on the use of your interview. (Please check the optional items at the bottom of this page to specify the restrictions you desire.) We ask that you refrain from publishing this interview or parts of it for five years after the dates which accompany your signature.

It has been explained to me that this interview is part of an historical study. I understand the purpose of the interview and also that I cannot necessarily expect any benefits (therapeutic or otherwise) through my participation in this study. My participation is completely voluntary.

____________________	__________
Narrator's signature	Date
____________________	__________
Interviewer's signature	Date

"Restrictions"

____ Permission for unrestricted use of interview materials for publication and quotation.

____ Permission to individual scholars for use of interview materials upon my verbal approval.

____ Permission to individual scholars for use of interview material upon my written consent.

____ Permission for unrestricted use of interview materials after ____ years.

____ Permission for my family to release interview materials to individual scholars after my death.

____ Other

on social settings of use, the relationship between drugs and work, relationships between drugs and criminal activity, family relations and drug use, inculcation of children (both subject's childhood and subject's children), drug use and recreational activities, perceived health effects of drug use and a host of other more distantly related topics in order to fulfill the study's objectives. Oral history materials seldom contain truly holistic interviews, but where they occur, they are of particular interest to the ethnohistorian, because an ethnohistorian must be an astute student of his subjects' culture. I argue that the "Outline of Cultural Materials," because it was developed with the total human experience in mind, is the most suitable way to systematize holistic interview materials.

Computers are by far the most convenient tools for managing a subject indexing system, even if one uses only a system for storing locations of content on hard copy pages (Bernard 1984). Nevertheless, if the collectors do not wish to computerize for whatever reason, there is an alternative. Another convenient way of employing the Outline as an indexing tool is to couple it with a system of marginal sort-cards, of which there are several brands. The basic steps to developing such a system are simple. 1) Spend an afternoon with all of the study researchers deciding which codes to use in the coding system. The number of codes to be used is listed only by the number of perforations on each sort-card and/or by the cross-coding ingenuity of the researchers. (Excessive cross-coding may make the system too complex.) 2) Test the system on known sections of text to ensure consensus among researchers. 3) Transcribe taped text onto sort-cards. 4) Code the cards in their margins. 5) Punch the perforations which correspond to codes written in the margins of each card. The principal advantage of this system over other cataloguing systems is that it allows instant retrievability of specific information from large bodies of textual material. It is always desirable for the collectors or users to have read the whole narrative, but it is often difficult to go back to large bodies of text and find specific passages or information quickly without such a system. The cost of microcomputers or sort-cards may deter oral history projects from using them. Nevertheless, collectors of narratives should employ a marginal subject coding system or some variety of subject page indexing. If a collection of oral history interviews is to receive ongoing use from scholars other than the interviewers, a subject indexing system that is more than a table of contents will be well worth the effort required to institute it.

CONCLUSION

Oral history's potential as an ethnohistoric tool is just now achieving recognition in the proper light of cultural relativity. Modern scholars have begun to overcome their printed word chauvinism, and they now recognize that, with appropriate techniques of filtering fact from cultural prejudice, oral history can contribute not only increased accuracy, but insight and humanity to the scholarly perception of past events.

The possibilities of oral history's contribution to ethnohistory seem endless. There are poems, tales, songs, and memorized genealogies to collect and analyze and reminiscences of fast disappearing ways of life to salvage. With adequate cataloguing and dissemination, the potentials for analysis of these kinds of data are also endless. The principal tasks of those who collect and use oral history materials are twofold. The first is to undertake only projects of collection which will continue to be accessible and useful long after the projects themselves have ended. The second is to make certain that existing collections remain available for the use of interested researchers.

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ARTIFACTUAL DOCUMENTS: ETHNOLOGICAL MUSEUM COLLECTIONS AS AN ETHNOHISTORICAL RESOURCE

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Ethnological collections in museums across the world contain millions of artifacts(1). Among these are represented virtually all the known recent pre-industrial cultures and they relate to many different activities in the societies concerned. Together these collections form a massive resource of cultural data yet they are relatively little tapped and only a limited proportion of their contents has ever been published.

For ethnohistorians the potential of this under-used resource is considerable. The study of artifacts is obviously the key to an understanding of the technological and material aspects of a culture. But, since artifacts are present in almost all other aspects, their study provides an insight into the economic, educational, political, recreational and ritual activities as well. Further, they contribute to our understanding of human beliefs and behavior.

Few ethnohistorians appear as yet to have realized this potential, perhaps through a preoccupation with written documents or deterred by an unfamiliarity with artifactual documents and a lack of the tools necessary for their understanding. This paper seeks to demonstrate the ethnohistorical potential of ethnological museum collections, discusses some of the problems they present and suggests ways in which they can most profitably be studied.

COLLECTIONS AND COLLECTING

Ethnological collections are composed of weapons, of crafts and other tools, of baskets, pottery and other containers, of canoes, sleds and ploughs, of male and female dress and ornaments, of beds, mats, blankets and cloaks, of fishing traps and hunting snares, of nets, ropes and sailing gear, of cultivating, food gathering, food preparing and other domestic equipment, of dance finery and musical instruments, of children's toys and adult pastimes, of regalia, weapons and other symbols of political and religious status, of masks, charms and equipment used at initiations, funerals and weddings and also in divination, medicine, magic and ritual, and of drawings, paintings, sculptures and other art objects. These artifacts are usually functional, having been acquired directly from their users. Examples of partially made objects, illustrating stages in manufacture, are also to be found as well as reconstructions of artifacts no longer in common use (Figure 1).

The collections may be supported by field photographs and records indicating where and when artifacts were acquired, together with information on their component materials, their manufacture and their usage. This information would rarely have been collected and even more rarely preserved if it had not been accompanied by actual artifacts. It would also be far less comprehensible without those artifacts to illustrate it.

The distinctive feature of ethnological collections, one that distinguishes them from archaeological collections, is that they have been acquired from **living** societies even though, with the passage of time, some of these societies are now extinct while, for many others, their traditional material cultures have been drastically changed or have totally disappeared in the face of Western industrial influences. Of changed material cultures there are numerous examples from all parts of the world. Of now extinct societies; the Aborigines of Tasmania (Roth 1899) and the Beothuk of Newfoundland, (Howley 1974; Reynolds 1978) are obvious examples. Nevertheless, at the time of collecting, representatives of these societies were still living. For the ethnohistorian the significance of this, as against archaeological collections, is that artifacts made from impermanent materials (leaf, bark, wood, feather, skin and sinew) dominate ethnological collections and also that these are often accompanied by supporting details of manufacture, of usage and of the general culture context.

The pace of change is increasingly rapid and today, in many societies, the loss of technological knowledge and the replacement of the traditional artifact mean that, for complete regions of the world, further additions from the field to ethnological collections are less and less likely. The existing museum collections have come to document an era that is now closing. For the most part this era coincides with that of initial or early Western contact with other cultures. In practical terms, most of the collections date almost entirely from the period 250 B.P. to the present. The upsurge of interest during the 19th century, both in ethnological collecting and in the establishment of our major museums, means too that the bulk of our collections dates from the period between the early 19th and the mid-20th centuries.

The earliest collections were made by explorers, sometimes, as in the case of Captain Cook, as an adjunct to natural history collections. Others, as for example the Speyer collection of North American Indian material, were essentially souvenirs gathered by military personnel, administrators and others. Later came the more systematic collections, such as that made in northwest Canada for the Royal Scottish Museum. Scientific field collections such as those of Torday and Joyce from the Congo, Haddon from the Torres Strait and the Jessup Expedition in North America, set a high standard about the turn of the century. These were augmented by valuable collections from amateur anthropologists such as W.E. Roth from north Queensland (2).

During the twentieth century museums have continued to receive, either as gifts or through purchase, substantial collections from missionaries, settlers, returning military personnel and others. Such collections are often uneven in their coverage and weak in their documentation but frequently include items that are unique or of considerable cultural significance. The most comprehensive collections, however, have usually been the products of scientific field expeditions, complete with documentation of the history, technology and cultural importance of each object. Such collections are also much more likely to have been published.

Collections and Sources of Information

The first and most obvious information that an ethnological collection can provide is on the material culture of a society: the forms and range of objects therein, what these were for a particular group in a particular location at a particular date. From an examination of these objects, basic conclusions can be drawn on the techniques employed in their manufacture and subsequent usage. The consistent absence from collections of certain types of artifact lends itself in turn to tentative conclusions on the limitations both of the material culture and of the technology. Closely associated with this, of course, are the modes of subsistence and utilization of the resources of the environment.

Thus, for example, the wide usage among Australian Aborigines of the spearthrower and the total absence of the bow, tell us of their preferred methods of weapon propulsion. The neighboring Melanesian peoples of Papua New Guinea, on the other hand, commonly use the bow and , although the spearthrower is to be found, it takes a very different form. In Africa, we find wheel-thrown pottery in the north but only hand-shaped pottery in the central and southern regions. So too the advanced metal casting skill shown in the lost wax method at Benin in Nigeria is not to be found in southern Africa where clearly smelting and smithing technology was less advanced. The almost complete absence of metal tools from the cultures of northern North America, the Pacific and Australia again indicate the limits there of technological knowledge.

The absence of cultivation tools and the presence of hunting equipment and of digging sticks used in gathering wild roots and insects make clear that for both African Bushmen and Australian Aborigines, subsistence was traditionally a matter of foraging and hunting. That their neighbors, the Bantu for the Bushmen and the Indonesian and Melanesian peoples for the northern Aborigines, relied on garden crops and domestic livestock obviously had little direct influence on their subsistence practices. Yet they accepted ideas and even artifacts in other areas, for example transport, domestic equipment and ritual.

Cultural and Temporal Markers

Artifacts in themselves are invaluable as cultural markers. As has been shown, they not only speak of the range and deficiencies of a material culture and its associated technologies, by their presence they also demonstrate the extent of areas or groups with common cultural characteristics: the carved and kerfed boxes of the American Indians of the northwest coast; the kayaks of the Greenland and American Inuit, the **wayang** puppets of southeast Asia, (Figure 2) the **tapa** cloths of Polynesia. Again they mark contacts between groups, some of which are not otherwise immediately obvious: the xylophone in southeast Africa and of southern Asia for example; the borrowing by Bushmen of carved wooden bowls from upper Zambezi Bantu; the Melanesian-type outrigger canoe noted by Cook far south along the Queensland coast (Hawkesworth 1969:537). Particularly interesting is the phenomenon associated with European contact whereby European artifacts were transmitted well in advance of the actual line of contact, for example in the Eastern Highlands of Papua New Guinea (Salisbury 1962). There are, of course, innumerable examples where traces of foreign contact remain in artifacts, perhaps buttons placed as eyes in masks, coins worn as personal ornaments, or telegraph wire used as earrings or for the decoration of spearshafts.

Artifacts are again valuable markers in the temporal sense. They demonstrate that at a given period in the history of a society they formed part of its material culture. To what extent they were typical, how wide was their distribution and what had been their previous history are questions to which artifacts in isolation and without supporting documentation can rarely provide answers. Yet the fact remains that unlike written documents, they provide their own tangible and unchanging confirmation of their presence within the culture at that time.

Early explorers, other travellers and even regrettably some scientists, have been prone, because of their lack of knowledge of the culture and perhaps the lack of effective language communication, to misinterpret even the most basic verbal information. While there can be similar misunderstandings about their cultural background, tangible artifacts themselves are usually free from this. Further, and quite understandably, such visitors tend to focus, initially at least, on the overt material aspects of the strange cultures they encounter, to record their observations of these and to collect examples.

Thus, David Livingstone (1865:314) illustrates a particular form of bellows used by Tonga smiths in the middle Zambezi Valley. Captain Cook (Hawkesworth 1969) and Joseph Banks (Hooker 1896: 263, 318, 319), on their visit to eastern Australia in 1770, noted the existence of boomerangs and spearthrowers among Aborigines and of the bow and arrow at the tip of Cape York. Jacques Cartier, in 1534, recorded the use of birch bark canoes by the Beothuk of Newfoundland (Howley 1974:10). Where examples are available in collections we are able to check the accuracy of statements made at the time by such observers. More recently collected artifacts show, for example, that while Livingstone's observation of cup-bellows was substantially correct, the artist employed to illustrate his text used his imagination too freely. The result is obviously unworkable (Reynolds 1968a:98).

Clues From Artifacts

Individual artifacts can each tell us something about the material culture of their society. Broad collections from the one society can also give us an understanding of the full range of equipment used in that society. This enables us more clearly to understand the basic economy: what were the staple foods and materials; from the level of sophistication of equipment, how much energy had to be employed in the acquisition of these staples; from luxury goods, how much surplus energy was available. The equipment can also indicate the optimum size of the residential group and the possible length of its stay at any one site. The potential of trade for the economy can be seen from the presence of traded foreign items, particularly those of an everyday functional character such as knives, baskets and skin blankets (Figure 3).

Ethnological artifacts, particularly with their supporting field records, can tell us much of the organization of a society. As Evans- Pritchard (1940:89) aptly notes:

> Material objects are chains along which social relationships run ... people not only create their material culture and attach themselves to it, but also build up their relationships through it and see them in terms of it.

Symbolic ornaments and styles of dress mark the public recognition of the major events in the life of the individual: birth, childhood, puberty, adulthood, marriage, parturition and death. The importance that different societies place on these events, and indeed on the individual at these stages in life, is often indicated by tangible and visible symbols: protective charms for a newly born babe; the scantiness (or richness) of dress and ornament for children; the complex equipment and dance regalia associated with African male initiation; symbolic gifts of bride wealth; the destruction or burial of the personal possessions of the deceased; all serve as guides to our understanding (Figure 4).

At the political level, the magnificent feather cloaks of Hawaii, the triple-ringed hats of the Indians of the northwest coast, the stools of the Ashanti, the very quantity and quality of chiefly possessions demonstrate firstly the existence of a centralized authority in such societies, secondly, the public emphasis placed on its importance through tangible symbols, and thirdly, since such symbols are often the work of specialized craftsmen, the existence both of a surplus of food and of an effective centralized system of using the surplus to support these specialists.

At the military level, weapons tell us how fighting is organized. The complex, beautiful yet fragile spears of the Australian Aborigines of western Cape York can cause nasty wounds but soon break, bringing an end to individual skirmishes. The throwing spears of African Bantu are similarly soon exhausted. The military formation developed by the Zulu, however, depending as it did on organized compact regiments armed with short stabbing spears and protected by shields, was a formidable force that quickly had its effect throughout most of southern Africa. White

(1962) shows how the adoption of the stirrup in medieval Europe had a far reaching effect not only on fighting methods but on feudal society as a whole in Western Europe. This is well discussed by Goody (1971:34). The Zulu stabbing spear had a similar impact in Africa.

Children's toys provide useful clues to their interests and to the methods employed in their preparation for adulthood. In many societies toys are miniature versions of adult equipment (hunting, domestic and so on) and many children work alongside their parents, copying them and producing increasingly competent and functional items such as mats, traps and weapons. The encouragement thus given to sex-oriented roles can be appreciated.

The field of ritual, medicine and the supernatural is especially rich in potential. The wide ranges of masks that symbolize mythical beings in such societies as the Kwakiutl of British Columbia, the Sinhala of Sri Lanka, the Chokwe of Angola, lead us to complex myths, beliefs and associated patterns of prescribed behavior. Medical and surgical equipment, divination devices, charms and witchcraft objects, tell us of the levels of understanding of surrounding natural resources, of the workings of the human body and of basic concepts of the supernatural world. The principle of sympathetic magic often underlies many of the medical treatments in non-western societies. Belief in the ability to control the supernatural and to project magic, as for example with the Aboriginal pointing bone or the Bushman love bow, is again widespread among societies seeking ways of explaining and controlling natural phenomena. [For example, Reynolds (1963) on Western Zambian beliefs.] (Figure 5).

Ethnological art objects can be particularly informative in that they often depict details of mythology, of everyday activities and of material culture. The scenes of war and hunting painted on Plains Indian skin robes, the incised whale bone pictures of the Inuit, the myths depicted in Aboriginal bark paintings and the anthropomorphic gold weights of the Ashanti all contribute substantially in this way. Art styles tell us too how the people see themselves and the world in which they live Figures 6, 7, and 8).

These various contributions that ethnological artifacts can make to our understanding of cultures are fairly obvious. They are able, however, to contribute significantly at other levels as well. Among pre-industrial peoples, a substantial empirical knowledge of the physical properties of local stone, wood, grasses, skin, sinew, bone and ivory is to be expected. Yet in artifacts this knowledge can still take an unexpected form, for the exploitation of these materials is closely dependent not only on the level of technological knowledge in the society but also on social and ritual dictates. In addition, utilization criteria, such as weight, mass and the degree of durability needed in a given situation, are usually taken into account. The result can be an unexpected choice of materials, to understand which the researcher must appreciate the reasoning of the craftsman.

Knowledge of the habits of fish, animals, reptiles and birds determines the equipment for their capture. Similarly, a thorough familiarity with ocean currents and tidal patterns, with the seasonal availability of wild plant foods and with the correct times to strip tree bark for canoes or barkcloth or to gather resins and fibrous plants is essential. This awareness of the environment is clearly demonstrated in museum collections. The seasonal pressures (rain, cold, drought) that dictate technological activities are also reflected, obvious examples being northern North American winter clothing and snowshoes.

In pre-industrial societies there appears to be a less rigid division between technology and the supernatural than one finds in modern Western society. The two are often intertwined. Charms are attached to or embedded in hunting weapons; craft competence may be ascribed to ancestral guidance; the practical reasons for selecting particular materials or employing particular techniques to work them may well be inextricably interwoven with mythological belief(3). Similarly, the early history of technological processes may well be explained through myths. The very value systems of the people are reflected in their material culture. One cannot, in the study of such societies, isolate the secular from the supernatural, technology from the total framework of values and beliefs. Conversely, artifacts provide us with clues to these and indeed to the world view of the people concerned.

Any material culture is essentially the expression, either consciously or unconsciously, of a system of beliefs and knowledge. Symbolism is evident in form, in design and ornamentation, even in the colors employed on an artifact. Each society develops its own art style, again a composite of beliefs and of technological styles, ways of treating particular materials in the production of artifacts. One need only compare Australian Aboriginal, Plains Indian, Maori and Tibetan collections to see the differences between them in art and technological styles and of the distinctiveness of the treatment afforded by these styles within each culture. This distinctiveness is not necessarily conscious. Newton (1974), writing of the Timbira of Brazil, discusses an identifiable yet unconscious variation in cordage spinning between two Timbira tribes that is able to serve as a cultural indicator. No doubt museum collections could yield a number of such informative unconscious keys. This is as yet an area little explored (Figures 9, 10, 11 and 12).

For ethnohistorians, concerned with the study of the culture of non-literate societies through documentary records of contact situations, artifactual documents, particularly those fossilized so to speak in museum collections, clearly have considerable potential. Since contact is never a single lone event, the early written records are usually multiple and overlapping. Similarly, artifacts collected on different contact occasions are all of ethnohistorical value. This is particularly so in the study of cultural changes occurring both as a result of external contact, including the ongoing process of contact between neighboring groups, and also through evolution within the society itself. Museum collections can shed valuable light on these changes and even indicate the areas of greatest receptivity to change and the directions in which further changes are likely to occur. They indeed offer "a measure of culture change, the diffusion of ideas and the stability of tradition" (Ford 1977:3).

Problems Associated With Museum Collections

Any study of museum collections must take account of their limitations and of the problems peculiar to them. These can be both philosophical and practical and apply especially to the earlier non-scientific collections that are understandably of particular interest to the ethnohistorian.

Bias in collecting

Field collections are by nature selective and governed very much by what the collector chooses to acquire or is able to transport, by what he in fact observes and by what the owners decide to relinquish. I use the masculine pronoun deliberately here for the collectors of the 18th, 19th and 20th centuries were indeed predominantly male. This immediately injects a bias into their collecting because of their probable predisposition to collect male equipment and also because, in a number of encounters, females and children were kept in the background for reasons of safety. Short encounters too, especially with hunter gatherers or subsistence cultivators, do not provide the collector with the opportunity to appreciate many activities that are of a seasonal nature nor to collect the accompanying equipment. Similarly, in short visits, sacred objects or objects of special importance may well be kept out of sight. The massive acquisitions of Benin material during the British punitive expedition of 1898 but emphasize what could be acquired only through the use of military force. Finally, the painful logistics of expeditions prior to the 1950s and, in some remote areas, even to the present day, placed strict limits on the size and weight of objects that could reasonably be acquired, especially from communities far removed from the coast.

For these and other reasons one finds a preponderance in early collections of portable artifacts, of weapons, of beautifully worked art objects, of curiosities. Artifacts (including spears and paddles up to three or four metres in length) that were light in weight were collected in quantity as also were mats, **tapas** and nets provided these could be rolled or folded to a manageable size. Canoes and kayaks are to be found though fewer in number for only, where these were used as expedition transport or could otherwise be brought easily to the coast, were they collected. Very few objects in early collections are, in fact, more than seven or eight metres in length. While the contents of houses might be acquired, perhaps **in toto**, the houses themselves were not. Children's toys and everyday items might well be collected but manuports and naturefacts - natural objects used without significant adaptation or working - were usually overlooked. Women's dress and ornaments and male penistaches might be obtained but more intimate female items associated with menstruation, abortion, childbirth, initiation and perhaps sub-incision and clitorodectomy were not.

One must recognize, therefore, that early collections are usually partial in their coverage of a culture. They can also be misleading in the quantities of particular types of objects. They often contain, for example, large numbers of clubs, spears and arrows, not because the community was particularly rich in these but because they were acquired from the battlefield after skirmishes between rival local groups or after minor confrontations with the expedition itself.

The subsequent history of a field collection was rarely one of direct and safe transfer to a museum (Nason 1987). Kept as a private collection it might be some years, even decades, before the owner or more often his heirs deposited it in a museum. Again, it might well be broken up and pass through a number of hands before reaching a museum. In the process items might be lost or damaged. Any accompanying documentation was particularly vulnerable. The complexity of such movements can well be seen from the history of the Speyer collection of individually collected North American Indian items dating from the late 18th and early 19th centuries. These items were gradually brought together as a private collection in the middle decades of the 20th century before its acquisition in 1973 by the National Museums of Canada (Brasser 1976)(4). Kaeppler (1978a and b) has again documented the vicissitudes of the items collected during the Cook voyages of the Pacific in the 18th century. These are now scattered in various museums and their location and identification necessitated considerable research.

A different problem is presented by collections acquired on a massive scale through local business agents. The authenticity of such material is often questionable and the artifacts ill-supported by scant and sometimes totally erroneous information. One major 19th century museum collection, amassed originally in London and now largely distributed to many museums throughout the world is a sad example of this. Yet it contained a huge quantity of artifacts and included many excellent ethnographic pieces.

Fortunately, there are excellent and reliable collections too. The Northern Athapaskan collection of the Royal Scottish Museum is the product of a most amicable agreement in the last century between the then Director and the Hudson Bay Company whereby, as part of a systematic collecting program, the Company factors in the field forwarded to Scotland carefully documented artifacts. These now form an outstanding collection on the Athapaskan peoples of Northwest Canada (Idiens 1981).

The conclusion to be drawn from all this is that any study of a museum collection must take into account its previous history, who collected it and how it was acquired. This is important if the authenticity of the artifacts and the soundness of the supporting documentation are to be established.

Access And Collections Management

Locating collections or individual artifacts from a particular region or cultural group can present problems. In a number of countries, particularly those of the non-Western world, the museums concentrate on the cultures of that country, for example, Nigeria, Fiji, Papua New Guinea and Sri Lanka. The long established major museums of the world, however, have developed broad international collections, often of considerable size and importance. It is in these that the early collections are often located. To study the material relating to a specific people, therefore, involves visits to a number of widely scattered museums: Australian Aboriginal material in Chicago, Leningrad, Manchester and Toronto; Zambian Bantu material in Cape Town, London, New York and Paris; Canadian Indian in Berlin, Dublin, Edinburgh and Melbourne. To add to the complexity, ethnographic art objects are often held in art galleries as well as in anthropology museums.

The publication of definitive catalogues is no longer fashionable and national and international computer inventories are not yet established. Researchers must therefore depend on their own resources, exploring limited summary inventories(5) and published exhibition catalogues, as well as writing direct to likely museums to learn their holdings.

The problem is not insoluble but it is time consuming and likely to cause obscure collections to be overlooked.

Museums vary enormously in the efficiency of the organization of their collections. In some, access to specific artifacts is prompt and highly efficient. In all too many, however, it is not. In most museums the retrieval of objects from storage, the search for related documentation and the transportation of data to inconvenient research areas is costly and inefficient (Ford 1977:28). Sturtevant (1969) notes that in one European museum 83% of the registered objects he wished to examine could not be located. This is an unusually high percentage but many researchers have had experiences of up to 30 and 40%. This inefficiency is often the result of massive acquisition programs, in the past accompanied and followed by ineffectual curatorial management programs, themselves adversely affected by insufficient and often inadequately trained staff (6) (Figures 12 and 13).

Management records can be inadequate or inaccurate in such key data as type of object and field origin. It is still not uncommon in museums for artifacts to be grouped only by type (spears, axes, etc.) and not by culture group, or even for them to be listed only under their registration number in temporal sequence of acquisition. When one must plough through records of collections of 5,000, 20,000 and even 50,000 objects so poorly recorded, one develops strange fantasies that the 19th century is still with us and that the computer, together with simpler cataloguing aids, remains still to be invented. However, the situation is not irretrievable, merely laborious and again time consuming. One appreciates even more the enlightened approach evident in modern and well organized museums.

Collections data fall essentially into two groups. Firstly, basic management registration data on date of acquisition, type of object, cultural and geographical origin and name of collector. These are available for most artifacts though careful checking is advisable of entries against the actual object and against any original field documentation extant, to ensure that errors of transcription have not occurred. Secondly, research records comprising mainly detailed field data identifying the materials employed, describing (with photographs or film) the methods of manufacture and usage and recording any relevant social, ritual or historical information.

These data, to any satisfactory level of completeness, usually accompany only systematic scientific collections. Most early collections lack such information. Some museums employ full time cataloguers to research their collections and obtain these data from comparative sources, both artifactual and other. This research can be of great assistance but again careful checking is needed.

From the artifact itself, as is discussed later, much can be learned. One must bear in mind, however, the possibility of significant alteration to the artifact during its life in the museum. Any repairs should have but would not necessarily have been recorded. Colors might have been retouched with modern pigments. Cords might well have been retied in knots alien to the original culture. Surfaces are particularly vulnerable, perhaps being varnished or otherwise protectively treated. Poor storage practices might well have caused a fading or discoloration of artifacts or the misplacement of essential parts, for example bow strings, tipi poles or kayak equipment.

This seems a dire list of reasons why one should not rely on museum collections. Yet the reality is that the total holdings across the world are massive and that they form a resource that is not duplicated elsewhere nor likely to be so from the field. That they are insufficiently researched and published makes their study that much more difficult. For these same reasons, however, they offer the ethnohistorian virtually untapped possibilities for rewarding research.

Museums are steadily improving their collections management procedures and increasingly accepting modern professional standards. Computerization is beginning to make inroads and hopefully the next decade will see substantial improvements in the situation. That research using this resource is more laborious than it need be is unfortunate but this criticism of course also applies to most documentary archives. The important thing is to exercise caution and to check supporting records wherever possible.

Utilization of Artifactual Documents

As with any scientific project, the study of artifactual documents requires a clearly pre-defined objective. This will determine not only what material, including comparative material from neighboring groups or from other time periods, needs to be examined but also which techniques of study should be employed.

The first step must be the location of relevant collections. In this one should not overlook the existence of private collections, often held by former or current residents of the area, missionaries, administrators and of course field scientists of very different disciplines. From exhibition, auction and other catalogues, from published and archival accounts and from official records one is able to identify those who have visited the area and often obtain specific references to collections made and to the museums in which these are now deposited. Enquiry of likely museums, and in this one must almost invariably include the major, long established museums of North America and Europe (including the USSR), should produce basic information on collections that would merit examination.

The importance of the previous history of a collection, where, when and by whom it was collected, together with its history within the museum, has already been discussed. So too has the value of supporting written and photographic data. There is no need here to explore this aspect further other than to remind of the value that their cross-comparison with artifacts themselves has in confirming information and in stimulating new avenues of research. To locate such supporting data, as opposed to basic museum registers and catalogues, may need a specific request of the museum curator and perhaps the search of old files on the complete cultural region. The result can be unexpectedly rewarding.

Familiarization with the material culture of neighboring and related groups and of later periods is to be recommended. This can be of value in a number of ways: it can help to achieve a better understanding of the particular culture and to put it in more general perspective; it can confirm individual points and often fill gaps in the record, for example, the way in which an artifact was made or used and even linguistic terms; it can suggest possible borrowings between cultures and also highlight artifacts or artifactual traits that are unusual, foreign or of doubtful authenticity.

The main study must, however, be of the artifact itself. This is primarily visual and tactile and should be undertaken in careful detail. Museum reserve stores are often poorly illuminated. Artifacts may therefore need to be removed to a study area for examination under clear light, preferably incandescent or daylight, to avoid missing faint details, including important field collection numbers and even actual data pencilled thereon, as well as to gain a true appreciation of color tones. For later study and perhaps comparisons, it is useful to record photographically each face of an artifact, using a color and linear scale. Kodak produces a combined Color Separation Guide and Grey Scale (20cm) that is inexpensive and compact.

If space allows it is advisable to lay out the complete collection together rather than examine each artifact in isolation. This gives a more coherent picture of the culture and often stimulates new ideas, especially on similar art and technological treatments of different materials, for example metal and wood, and on unexpectedly significant details such as variations in the shape of shield handles. These would not necessarily be obvious from the study of separate artifacts yet could throw valuable light on cultural contacts and regional variations.

The researcher needs to understand how and for what purpose an artifact was used and of what materials and in what manner it was made. Often these can be deduced from a visual examination confirmed with information available from parallel cultures. The feel and the balance of an object need to be appreciated and it is here that tactile examination plays its part. The skill of the craftsman, working by eye alone and without precise measuring aids, and the skill of the user, perhaps hunting successfully with apparently simple weapons, can thereby be better understood and the way of life these objects represent better appreciated.

Discussion of the project and of individual artifacts with knowledgeable curators can be of great help, for even if they are not familiar with the particular culture their familiarity with the history of the artifacts in their charge and their broad experience of other collections can enable them to give useful additional and comparative information. Similarly, practising modern craftsmen, for example potters, can bring to artifacts their special expertise and may even be able to recognize, within a collection, those items made by the same craftsman. Descendants of the cultural group should be invited to examine the collection or, if this is not possible, photographs of the objects. They may be able to identify materials or actual objects and the experience may well stimulate memories of the past and perhaps of myths that would add to the project.

Laboratory techniques of analysis

The visual examination of artifacts is not, however, the only resource available to the researcher. The application of scientific techniques of analysis to art and archaeological material is a well established field on which substantial handbooks have been written. In ethnology such application is still in its infancy. There is, however, a range of techniques on which one can now draw.

The botanical identification of materials, particularly wood, is possible where herbaria hold reference collections from the area. A thin shaving of wood is usually sufficient. Where distinctive materials have been employed visual identification may be all that is necessary. Similarly, the identification of insect and faunal material, including teeth, skins and bones, is possible where reference material is held, perhaps in museum biological collections. The researcher may be fortunate and have available published linguistic checklists(7) and distribution data for the flora and fauna.

Examination under magnification, using either a simple glass or an illuminated magnifier, is recommended for it assists greatly examination by simple visual means. From this it is but a short step to microscopy. Using a basic binocular instrument one is able to identify features not obvious under lesser magnification.

Under the microscope the dust or scrapings from the interstices of baskets and linings of bags can tell us what foods were eaten. Individual fibres and animal hairs can be compared in cross-section with reference material where this is available and the animal thereby identified (For example, Brunner and Coman (1976) on Australian mammals). Microscopy helps identify the tools and even the techniques used in shaping an object. It can be of particular value in distinguishing between scars made by metal and non-metal tools, most important in early contact situations for cultures that previously lacked metal. For even more detailed examination, the scanning electron microscope, giving magnifications of 100x or more, is available though there is a limit to the size of artifact that can be scanned and, for artifact study low levels of magnification are usually the most suitable.

At a different level X-ray photography can show foreign bodies embedded or hidden in artifacts, for example speartips in shields or charms embedded in waxes, as well as details of construction obscured by surface veneers or paints. Infrared and ultraviolet photography too can provide additional information. There is, as can be seen, a close link in this whole field with forensic methods, one that is still to be fully explored.

Where reference material is available or can be obtained for comparison, resins used on artifacts can perhaps be identified using chromatographic methods (Bowden and Reynolds 1982). Paints and varnishes can also be distinguished chemically as being of vegetable, blood or powdered ochres and the latter perhaps identified spectroscopically.

For lithic and metal artifacts nuclear techniques of analysis, for example of trace elements, can give the particular composition of the sample, enabling the identification of the components and any metal impurities, deliberate or otherwise, and perhaps even their regional location. This must depend, however, on the availability of a thorough geological survey of the region. From such analyses, as in the case of obsidian in Oceania (Ambrose 1978: 146) and North America(8), it may be possible to identify links between peoples, perhaps through trade and migration, evidenced by the presence of such materials far from their original location. Glass lends itself to quantitative hydrogen profiling (Clark 1978: 52-57), allowing very precise dating even of most recent (19th and 20th century) samples, a benefit that is regrettably not yet available to the organic materials of which the majority of ethnological artifacts is composed.

These are but some of the laboratory techniques now becoming available for the study and authentication of ethnological artifacts. Many have been developed in the physical sciences and come to us from archaeology. Their application to ethnology is not always easy. Curators may be reluctant to allow objects to be taken to outside laboratories, should their own museums lack the specialized analytical equipment necessary. They will, and most understandably, be even more reluctant to allow destructive analytical techniques to be used, techniques that require pieces to be cut from the artifact. The use of non-destructive scanning techniques and perhaps of those requiring only minute samples is the answer and one more likely to meet with curatorial approval.

The need for a clearly defined objective is again evident. Laboratory techniques such as those outlined above can be costly and time consuming. Visual examination, perhaps using simple magnification, enables the researcher to select individual artifacts and even the portions of those artifacts that merit closer examination. It is then a case of choosing the appropriate technique, working, for example, from microscopy to scanning electron microscopy and with increasing magnifications. The aims must, however, be realistic and the overall objective of the whole project not be forgotten in the process.

CONCLUSION

In our essentially materialistic world with its heavy dependence on rapidly changing technology, the low level of interest shown by anthropologists and historians in material culture is a phenomenon worthy of study in itself. What makes the phenomenon even more puzzling is the very high level of public interest in material history and in the tangible memorabilia of other times and other cultures. The popularity, both public and scientific, of archaeology, dependent as it is on artifacts and tangible data, combined with the existence of the massive resource that our museum collections represent, but adds to the puzzle for none of these factors has been able to stimulate the level of active research that might reasonably have been expected.

The opportunity is there for the ethnohistorian to utilize this resource. The work of Fenton, Kaeppler and Sturtevant provides excellent precedents to be followed. There are, as has been shown, pitfalls to be avoided and analytical techniques to be learned and applied. Obviously, other techniques are available and will present themselves in the solution of particular problems. Indeed the more such research is undertaken, the greater will be the improvement in the methods employed. As ethnohistorians come to appreciate the potential of artifactual documents of an ethnological nature the problem of effective utilization will resolve itself.

FIGURE CAPTIONS

FIGURE 1. Pygmy Artifacts

Depicting, at about a seventh of actual size, a range of artifacts common to the culture from weapons and a hunting net to a child's basket (8), wrist guard of monkey skin (5), comb (14), flute (13), belt (15) and hat (17). The adze (9), bark pail (10) and whistle (12) are used in gathering honey, a male pursuit. The African pygmies are rainforest dwellers traditionally reliant upon hunting and food gathering. With the exception of the iron blades of the weapons and tools, all the materials shown here are readily available from local floral and faunal resources. (after Turnbull 1972, p. 307)

FIGURE 2. Malay Shadow Puppets

Hanuman, Seri Rama's son and champion and (right) Hanuman Ikan, Hanuman's son by the Fish Princess. Characters in Malay shadow plays. Shadow plays are popular over a wide region of southeast Asia (after Sweeney 1972, plate 4)

FIGURE 3.

The Interior of the Whale House at Klukwan, Alaska Early photograph that shows the beautifully carved and painted wall screen and the house posts. These are still preserved by the Chilkat at Klukwan. The photograph is rich in its detail of Chilkat Tlingit material culture and posts, boxes, bark bags, masks, clothing and ornaments of the types depicted are to be found in a number of museums. Of particular interest is the similar treatment of designs on different materials: wood, skin, basketry, hats, etc. See also Figure 4. (after Feder 1969, Plate 166)

FIGURE 4. Painted Leather Shirt, Chilkat Tlingit

Collected by Louis Shotridge in 1918. This appears to be the same shirt worn by the central man in Figure 3, though without the sleeves and the bottom fur trim. This is the kind of exciting link between artifacts or, in this case, artifact and photography that unexpectedly throws new light on the earlier history of a culture. The designs on the shirt illustrate the treatment afforded a theme, in this case a bear, by Northwest Coat artists. University Museum, Philadelphia (Cat. No. NA 8472). (after Feder 1969, Plate 171)

FIGURE 5. The Projection of Magic

Various weapons used by magicians of Barotse Province, Zambia, to kill witches. The lower are traditional Kaliloze night guns, consisting of barrels of human bone lashed (g and i) to wooden stocks. Such artifacts are a key to the rick and interwoven beliefs in necrophagy, sorcery, divination and medicine of the region. Livingstone Museum (after Reynolds 1963, fig. 6)

FIGURE 6. Painted Buckskin Tepee Model

Brule Sioux; painted in reds, green, yellow and black. "Collected by Major L. F. Spencer on the Rosebud reservation in 1888 and probably new at the time of collection." Private collection (after Feder 1969, colorplate 17).

FIGURE 7. Inuit Art

On ivory, depicting hunting and fishing scenes. Such illustrations tell us both of the kinds of animals sought and also of the methods and equipment employed. The use of a rifle (1.186) helps date the work. (after Miles 1963, p. 33)

FIGURE 8. Fired Clay Animals

These often indicate the types of cattle and of wild animals common to the area. The ox is an Ndebele child's toy from Zimbabwe. British Museum, London. The pipebowls depicting buffalo, buck and lion are Ila form Zambia. Pitt River's Museum, Oxford. (after Reynolds 1968b, p. 339)

FIGURE 9. Navigation Chart

The cowrie shells represent islands, the bamboo strips ocean swells and complex currents. Marshall Islands, Science Museum, London. (after Debenham 1960, p. 208)

FIGURE 10. Aboriginal Toa Symbols

"Each toa served as an indicator or signpost to a particular locality. Their shapes, color patterns and appendages depict, realistically or ideographically, conspicuous natural features or refer to episodes in the legendary wanderings of Maramuras, Aboriginal demi-gods and ancestors of mankind." The charms are made of pipeclay, stick and ochre and the South Australian Museum holds more than 300 toas, believed to be almost the entire world collection. South Australian Museum. (after Lloyd and Sekuless 1980, pp. 139 and 161)

FIGURE 11. Individual Characteristics in Art

"Comparison of Eyes. Eyebrows, and Eye Sockets in a Temporal Series of Kwakiuti Masks Carved by Different Artists." Ethnographic art is not a collective and anonymous product as was once thought. The work of individual artists can be identified as also can changes in individual style as an artists develops. (after Holm 1974, Fig. 4.7)

FIGURE 12. Storage of Artifacts (A)

Artifacts under these conditions suffer mechanical damage and retrieval of specific items is difficult and time-consuming. (after Pigott 1975)

FIGURE 13. Storage of Artifacts (B)

Reasonable storage conditions allowing easy retrieval. (after Pigott 1975)

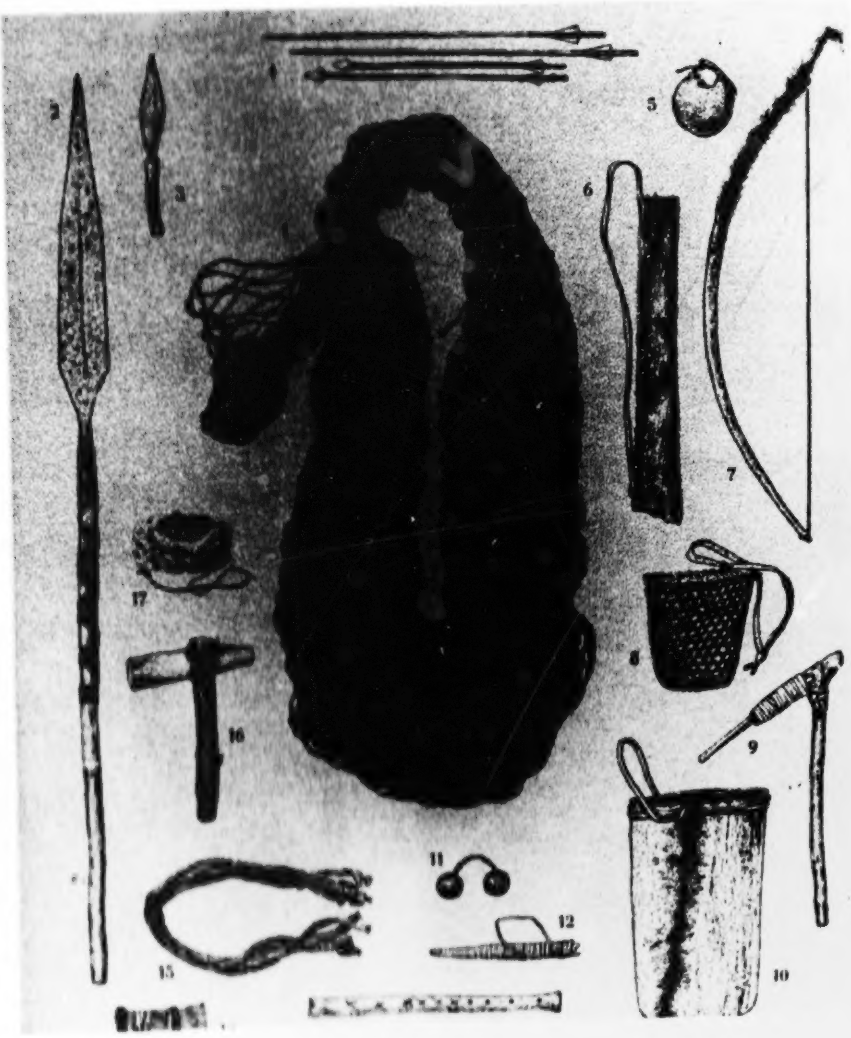
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FIGURE 1

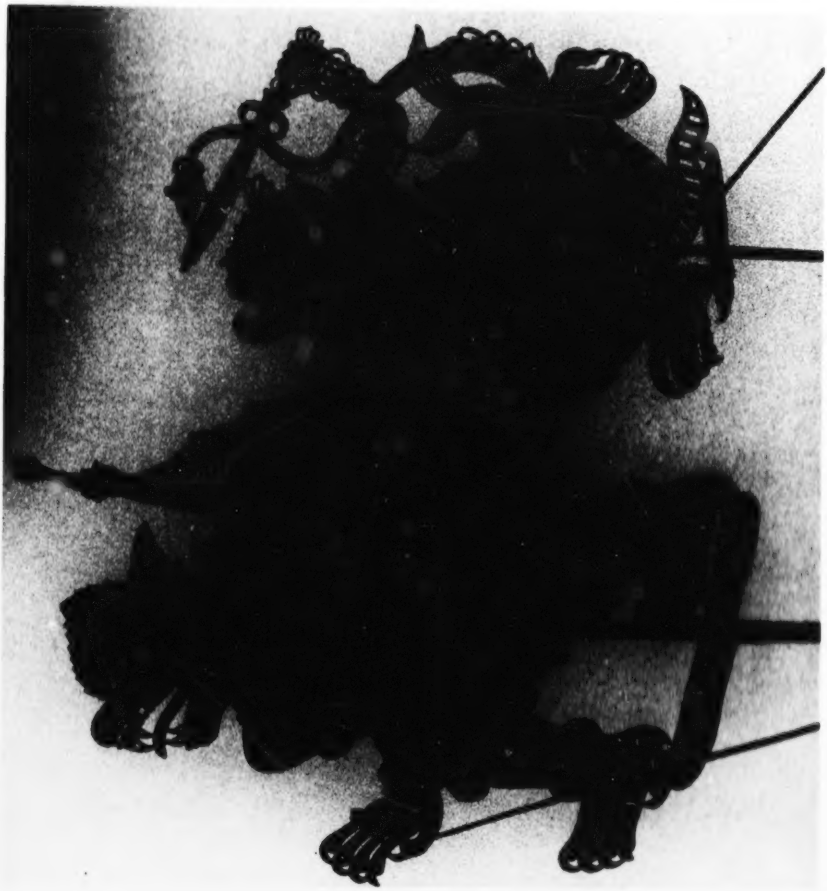
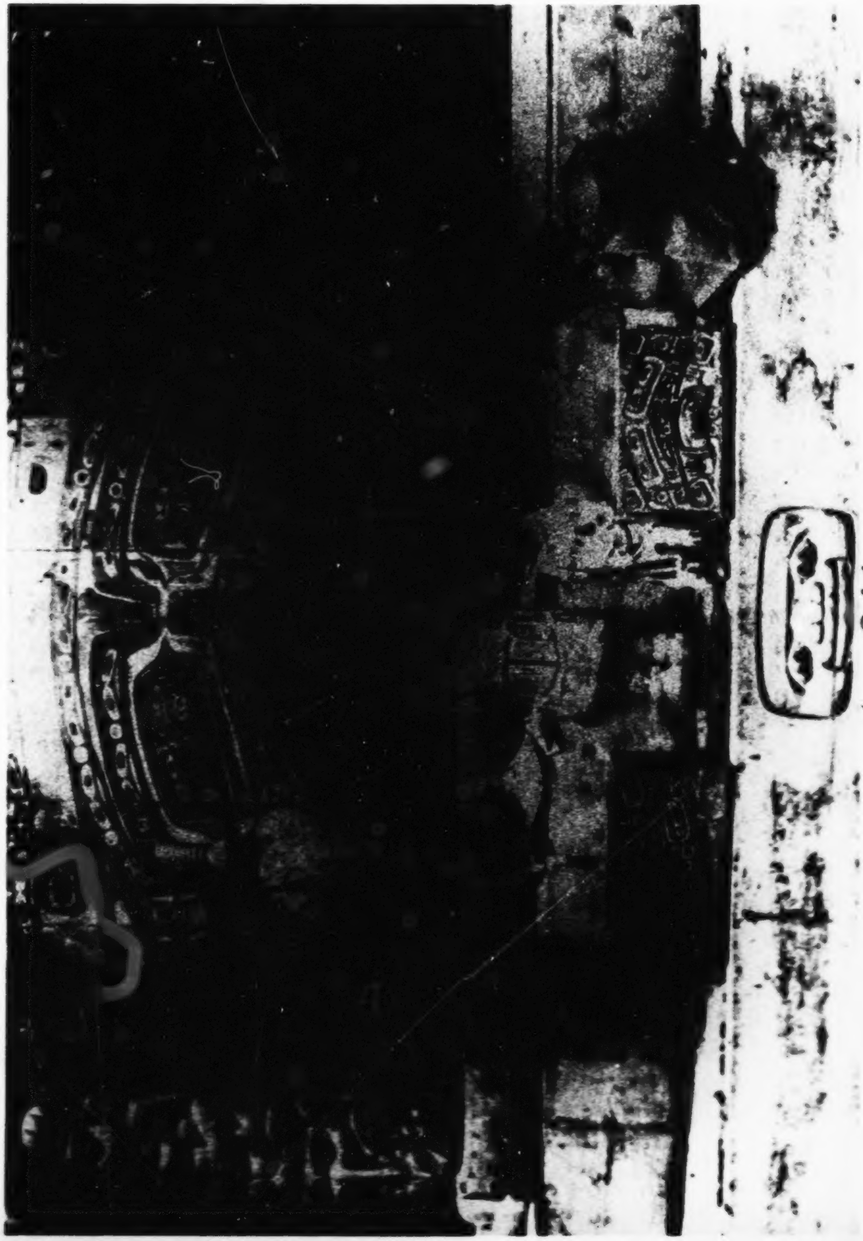


FIGURE 2

FIGURE 3



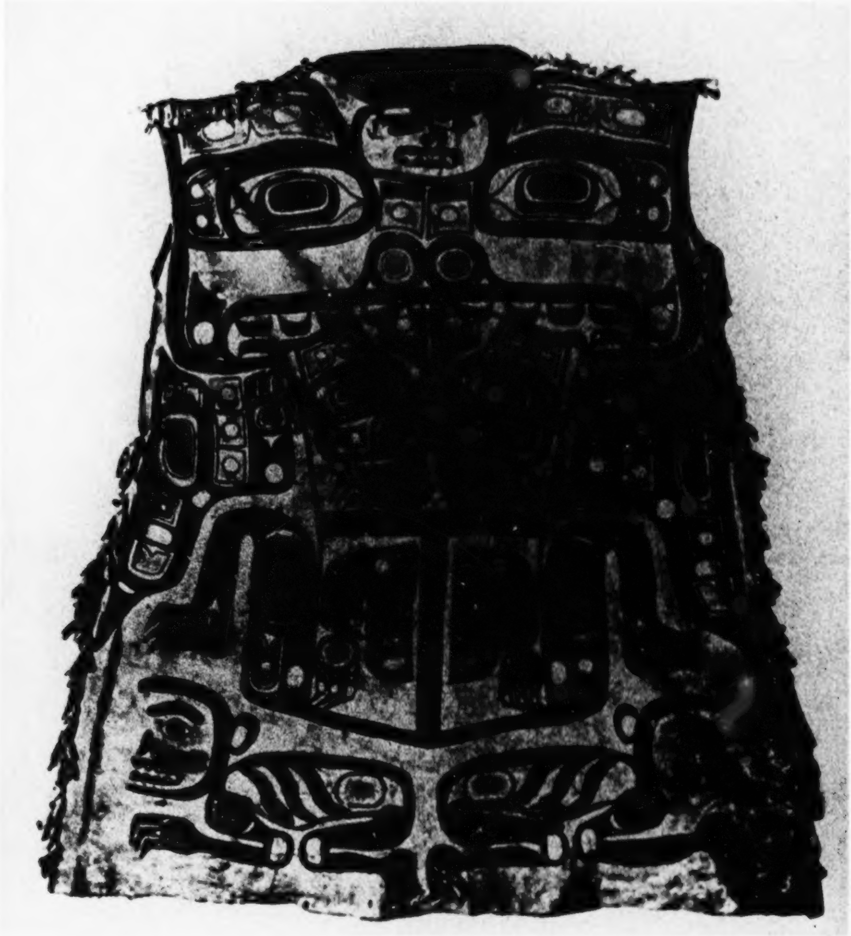


FIGURE 4

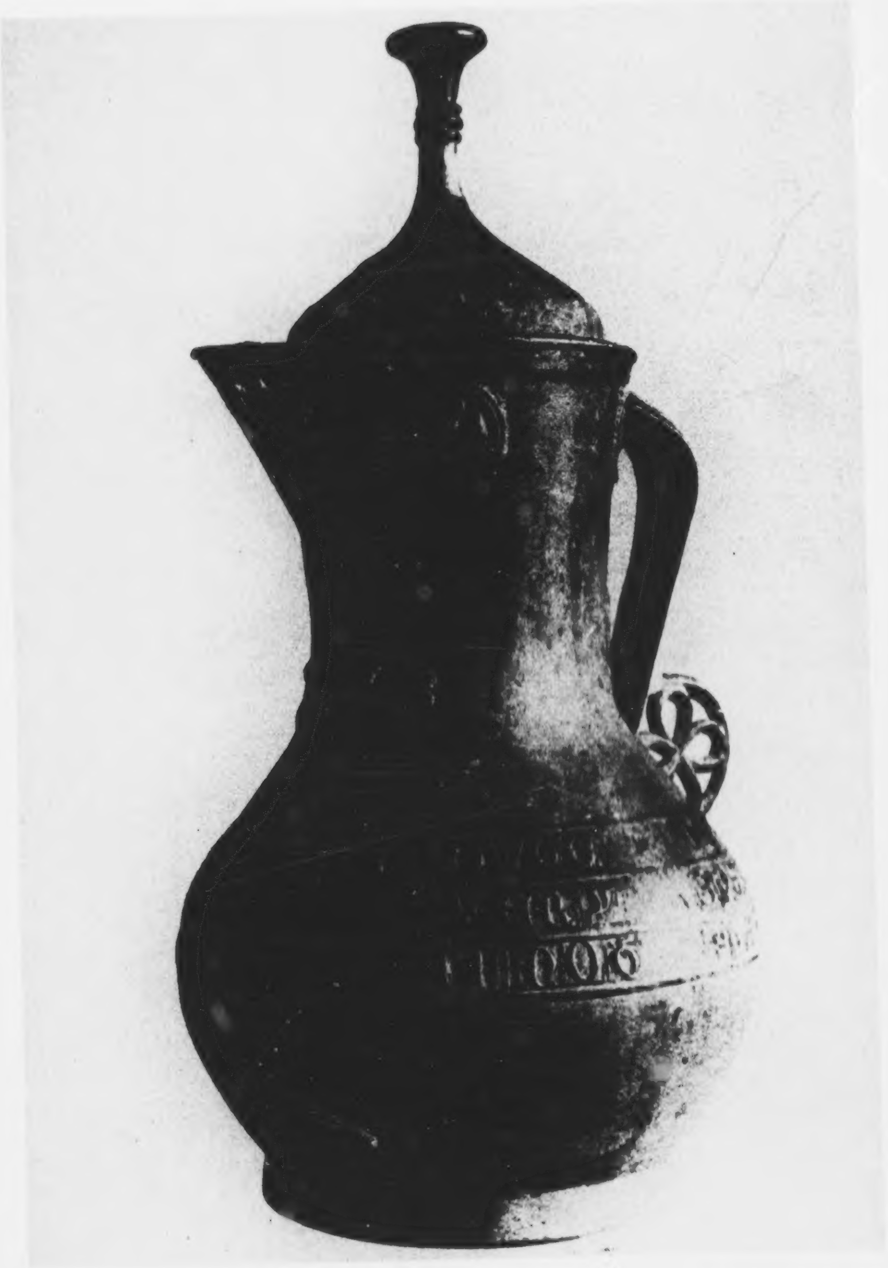


FIGURE 5

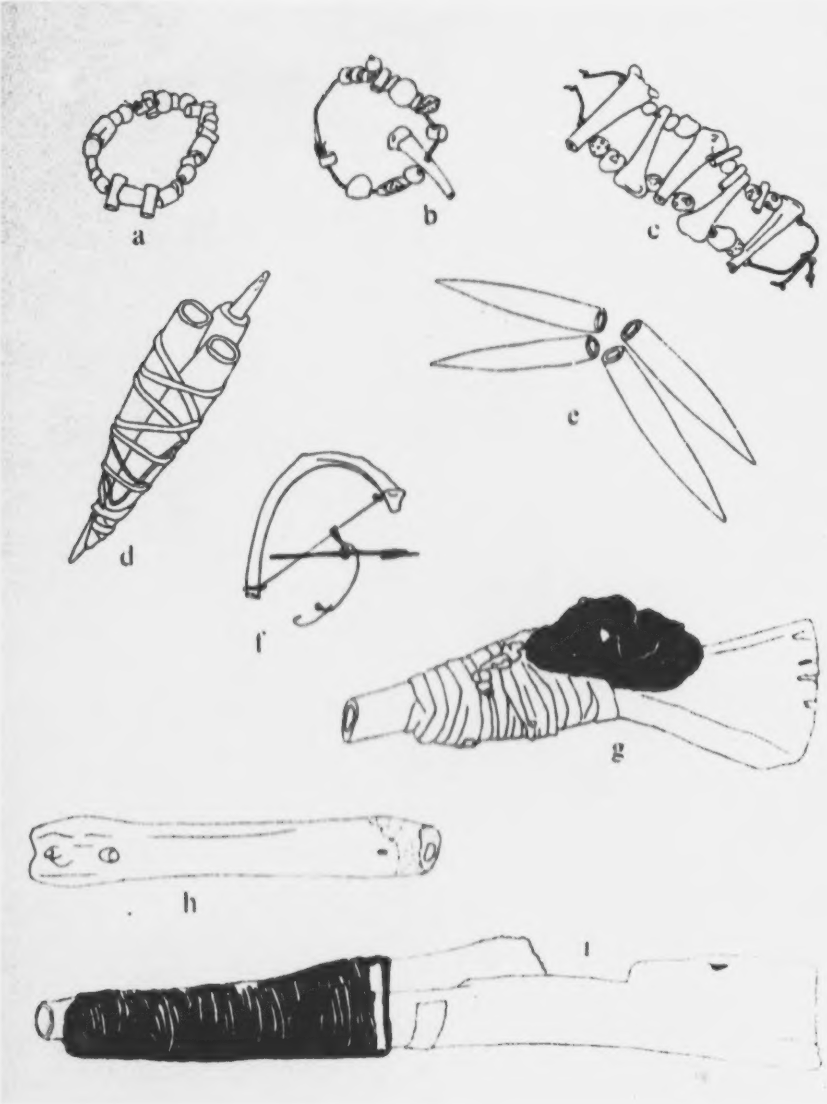
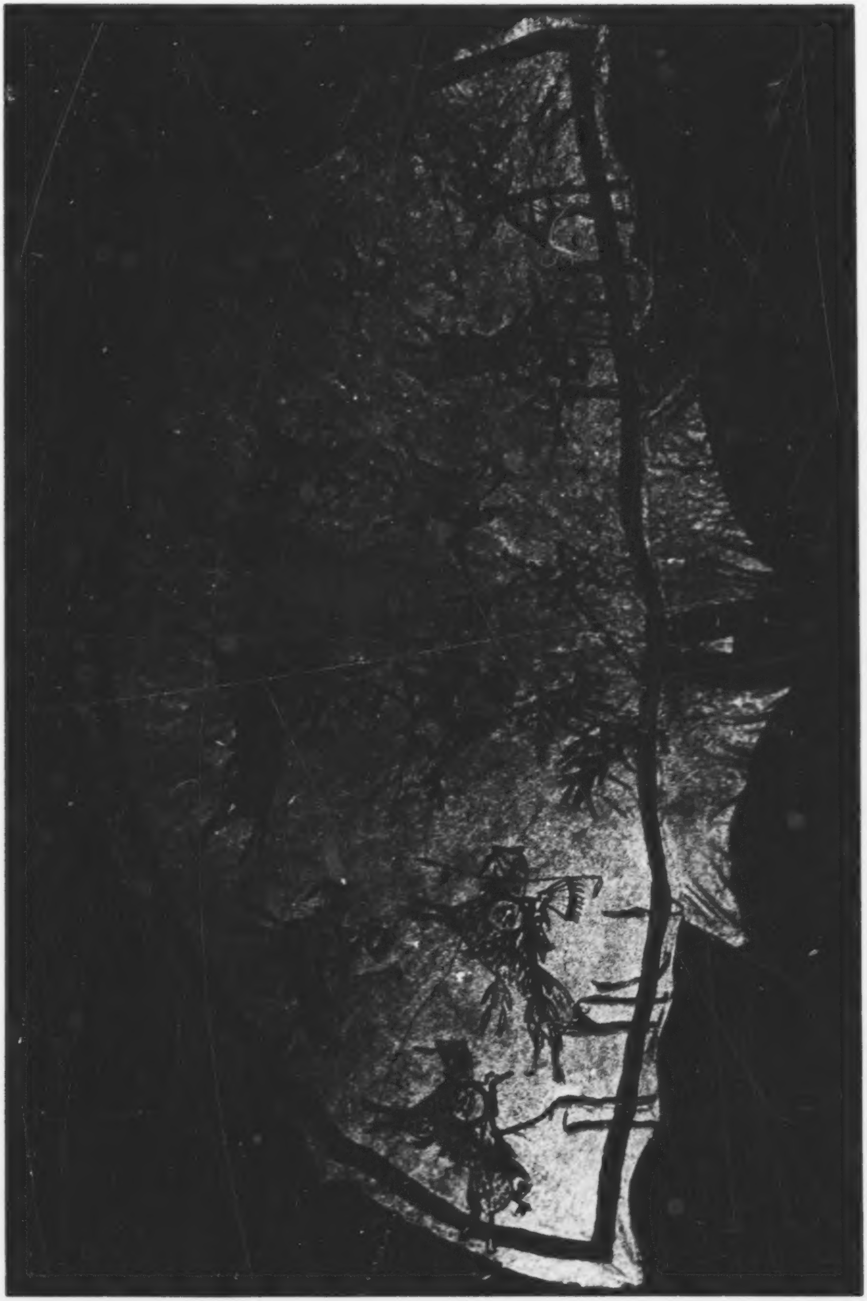
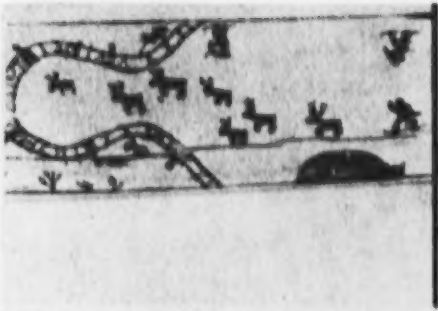


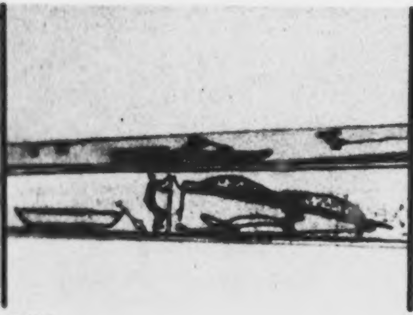
FIGURE 6

FIGURE 7

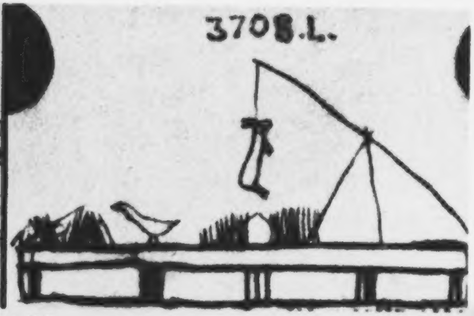




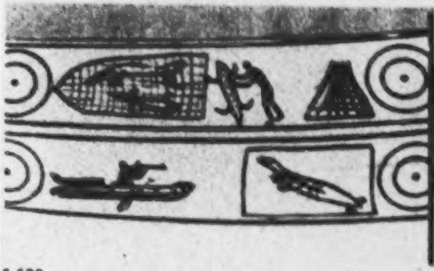
1.183



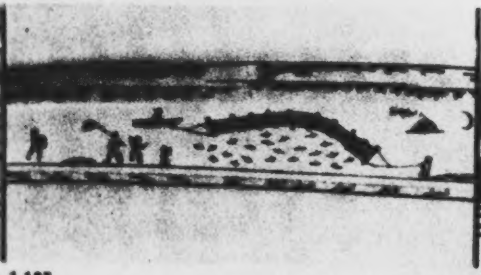
1.184



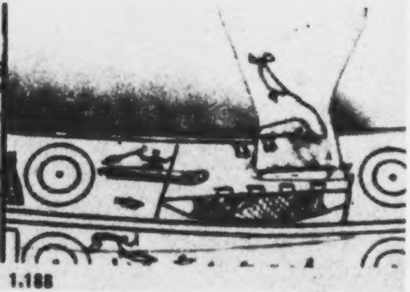
1.185



1.186



1.187



1.188

FIGURE 8

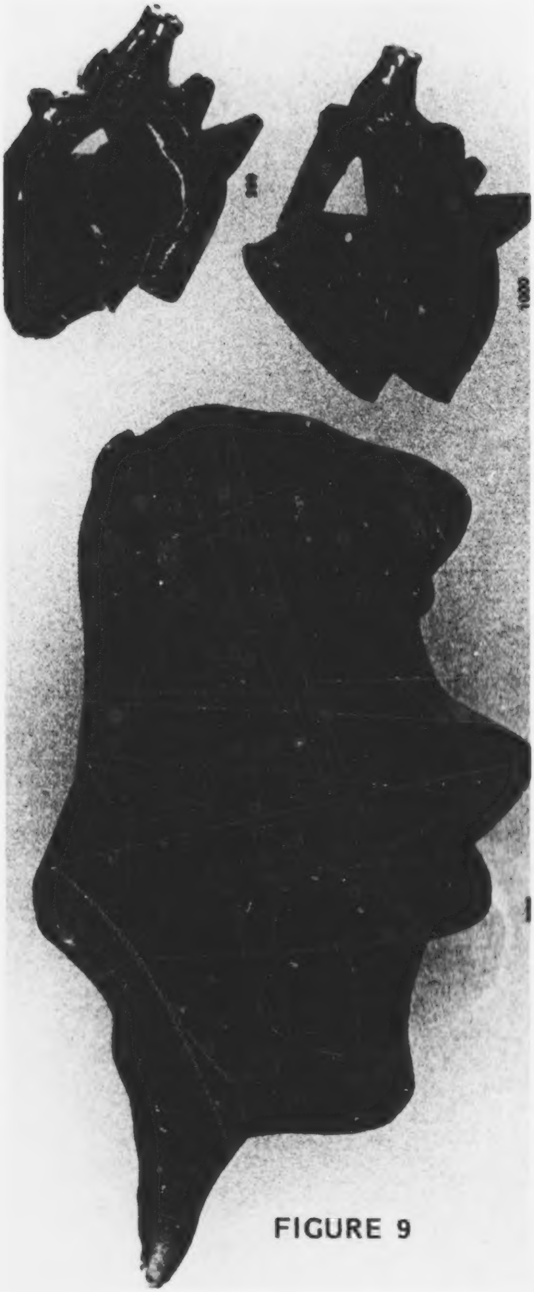


FIGURE 9

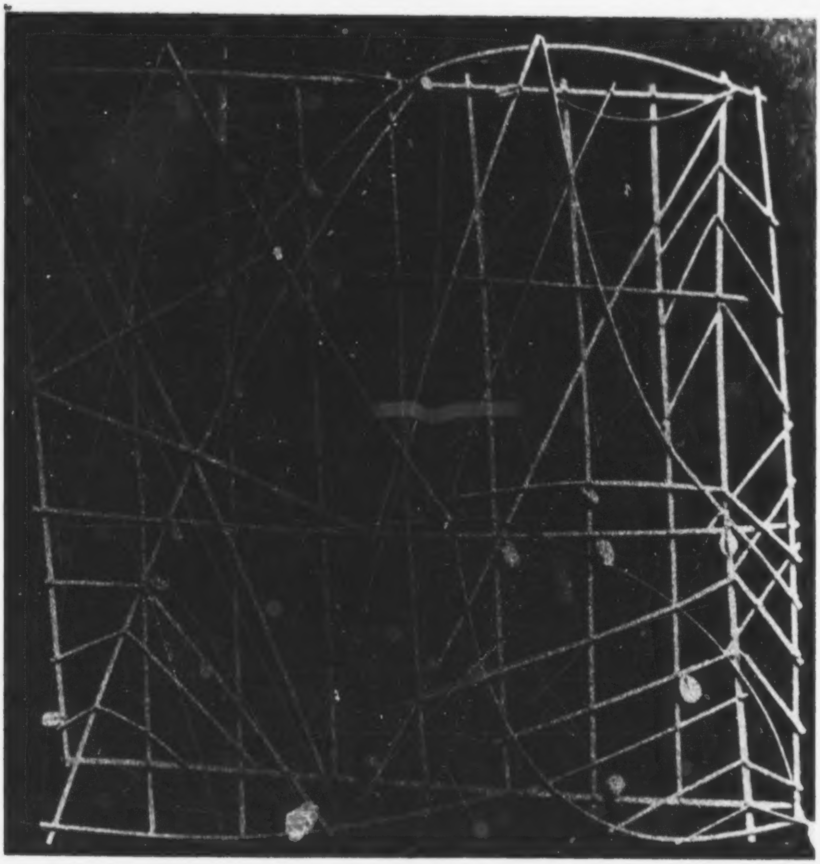


FIGURE 10

FIGURE 11

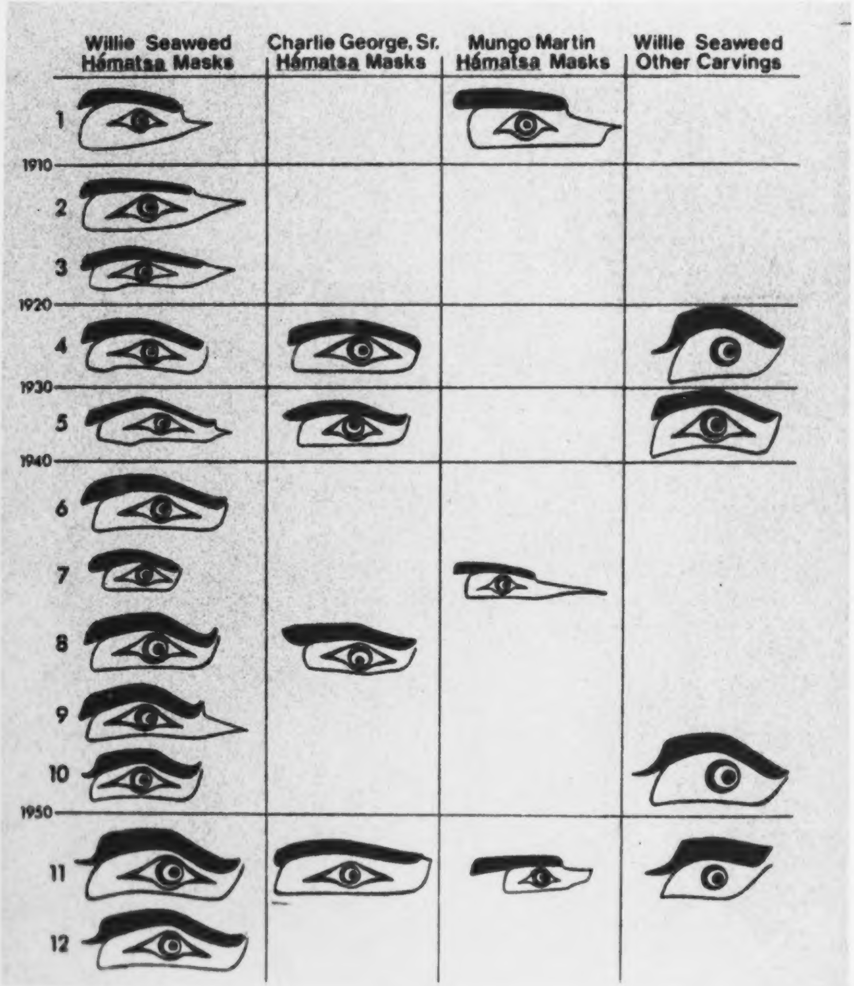

Willie Seaweed Hámatsa Masks
Charlie George, Sr. Hámatsa Masks
Mungo Martin Hámatsa Masks
Willie Seaweed Other Carvings
1
1910
2
3
1920
4
1930
5
1940
6
7
8
9
10
1950
11
12

FIGURE 12

FIGURE 13

NOTES

1. "By a careful estimate, there are a million and a half such specimens in the United States alone; of these, half are in five large museums (there are two hundred thousand in the U.S. National Museum alone). There are perhaps four and a half million specimens in the museums of the world." Fenton (1974:29). My own estimate in 1971 of collections in Canadian museums was 400,000. A 1979 estimate of Australian holdings is 235,000 (Specht 1979). A recent survey of the United Kingdom indicates total holdings well in excess of one million (Schumann 1980).

2. For the collections mentioned in this paragraph see Kaeppler (1978a and b) on Cook, Brasser (1976) on Speyer, Clark (1974) and Idiens (1981) on the Royal Scottish Athapaskan collection, Torday and Joyce (1910), Haddon (1971), Boas (1900) and Roth (1897).

3. For example: "It has been shown that the abandonment of the ritual of agriculture in communities under European influence, such as the Maori, has reacted unfavourably upon the quality of the work performed." (Firth 1950:79)

4. Phelps (1976) provides an interesting account of how one of the great private collections, that of James Hooper, was amassed. During the late 1970s this magnificent collection, which was particularly strong in Polynesian material, was auctioned in London. The excellent 487 page catalogue by Phelps was published in association with Christie's. In addition, Christie's produced their own catalogues of the individual sales. These form a valuable source for information on the history of individual pieces.

5. Such as Hunter (1968) and Ford (1977) for North America, Reynolds (1969) for Africa, Schumann (1980 and 1986) for the United Kingdom. There are now excellent regional inventories: for Oceania by Bolton (1980), and Bolton and Specht (1984) for Australian holdings; Gathercole and Clarke (1979) for the United Kingdom; Kaeppler and Stillman (1985) for North America; Neich (1982) for New Zealand.

6. For a 1981 analysis of collections management in selected Australian museums see Reynolds (1981).

7. In my Zambian fieldwork I found invaluable the Forest Department Checklist (Northern Rhodesia Government 1956). There are similar checklists for other regions. These can be particularly helpful in the identification of native names of materials in supporting field data.

8. Similarly, in the archaeological field, neutron activation analysis has confirmed that most obsidian in the eastern United States came from Yellowstone National Park and that turquoise travelled over thousands of miles from sources in the southwest and Mexico (Ford 1977:18).

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DOING ETHNOHISTORY WITH OLD NEWSPAPERS: THE STUDY OF AN ANDEAN PEASANT MOVEMENT OF 1885

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The Atusparia Uprising took place between March 3 and May 3, 1885, in the intermontane basin known as the Callejon de Huaylas, located in the Department of Ancash of Peru. The movement began when thousands of peasants from settlements on the slopes and terraces of the two mountain ranges, the Cordillera Blanca on the east and the Cordillera Negra on the west, swept down upon the regional capital of Huaraz, overcame its garrison of army troops and its police force, and established an insurgent government. The peasant army continued through the valley to occupy the other main towns, all provincial capitals located along the Santa River, Carhuaz, Yungay, and Caraz. After an initial expeditionary force from Lima was defeated before it reached the highlands, a stronger military force set forth in mid-April. These troops, after retaking the other towns, entered Huaraz on May 3. After several attacks in which rebel forces were decimated by grapeshot from government artillery pieces, the larger part of the insurgent forces concluded an armistice on May 11. One faction continued the struggle which degenerated into skirmishes resembling bandit raids on towns and hamlets in the Cordillera Negra, but even these stubborn forces disintegrated when their leader was captured and executed on September 29. This essay endeavors to explore what can be learned from extant journalistic materials published in the newspapers of the time about this mass event, in the context of other documents available to an anthropologist with an interest in ethnohistory.

It is to be understood that journalism is by no means objective and disinterested. Newspapers appeal to the public which purchase and read them, and approve of what they read: they are commodities first, records of events somewhere later along the line. They are also dependent on advertisers and others who furnish them with additional revenue in exchange for having their interested notices printed.

Moreover, newspapers are sometimes subject to greater or lesser government direction and/or censorship. This was the case in Peru during most of 1885 and applies to the restriction regarding publication of newsworthy items until mid-April of that year, the skirting of references to factional political struggle by all newspapers except the one which was the unofficial organ of the political party in power, and the repetitive publication of official bulletins by one daily after another. How, then, may the journalistic materials be used to expand our understanding of the event, rather than distort it, and to aid in interpreting it, rather than throw it into confusion? Clearly, one answer is to use these data as supplements to other data, and in conjunction with the latter, to fill in gaps and check on the reliability of the corpus of works which constitutes present knowledge. With reference to the Atusparia Uprising, this consists mainly of a variety of novelesque and historical accounts based on the oral history of the event and on the newspapers themselves, most of it uncritical, and even secondary accounts based on earlier work which tend to continue myths rather than elucidate realities.(1) Beyond this complementation of data, when the newspaper reports are placed in the context of the social and cultural milieu, as understood from the writings of historians on nineteenth century Peru and from contemporary ethnographic accounts of Andean peasant life, an understanding of the movement can be achieved which makes it possible to explain it.

The 1885 newspaper columns represented the interests of a tiny but powerful alignment of ruling social sectors which were more or less linked to each other by social necessity while, at the same time, they constantly looked for opportunities to exclude each other in their striving to monopolize national resources. The journalistic materials contain the illusions of those sectors not only about their own realities but also about the realities of the popular masses whom they governed: the belief in their social order as "just", "fitting", and "natural." The object of this essay, also, is to provide an exercise in and, hopefully, an illustration of how to overcome the illusions and get these materials to tell the truth.

The society in which the event took place consisted of a heterogeneous mass of rural small producers, peasants, which were exploited economically and dominated politically by an urban sector which was itself segmented in terms of relations both with the peasantry and with the distant ruling sectors in Lima. The peasants consisted of small farmers and herders, colonos (payers of labor-rent to proprietors), micro-holding clients of urban patrons in a variety of servile relations, wage-laborers, traders and petty commodity-producers. The conditions of these rural existences were such as to isolate the different kinds of peasants from each other in terms of their varied economic interests despite ancient and pervasive habits of cooperation in community works, especially the construction and maintenance of hydraulic systems. These direct producers of the rural sector, as a class, supported and otherwise served the interests and needs of an urban class of indirect producers, itself segmented according to the varied socio-economic conditions of its people. The servile social order produced and reproduced bonds of economic and political dominance and dependence between the classes through patronage-clientage networks consisting of relations between small and large landlords and their small-producer retainers or their colono tenants.(2) The countryside supplied the town with labor-power, either in the form of labor-rent or wage-labor for produce or cash, for the production of commodities for sale in the national market, as well as a variety of goods and personal services for its consumption. Peasants served townspeople as agricultural laborers, burden-bearers, message-carriers, street-cleaners, house servants, providers of draft animals, mounts, and fertilizer, and provisioners from their own small food and handicraft production, and even as cattle rustlers and squatters in urban-sector property struggles, and irregular troops in their feuds and factional quarrels. The rural sector as a whole rendered tribute to the urban sector in two ways: in the form of a variety of taxes paid in cash, the proceeds being divided traditionally between regional and national government administrations, and in the form of corvee labor (locally called "la republica") which included the construction of public buildings, the construction and repair of streets and highways, the maintenance of flower beds in the plazas (public squares), the maintenance of the district's water supply and drainage, and so on.

The people of the rural sector, monolingual speakers of the aboriginal Quechua language, and thereby illiterate, uninformed, and weak in a universe run by bilingual (in Spanish and Quechua) power-holders, were identified as "Indians", more by their poverty and their servile relations to the urban sector than by continuity from aboriginal conditions. Urban persons were distinguished easily by their wearing of national-international styles of clothing, as contrasted with the distinctive rural homespuns, sandals, felted hats, and other distinctive paraphernalia. This literate minority of masters possessed the voting franchise, commanded the police force, controlled the courts, and engaged in commodity-exchange. Townspeople were identified as "mestizos" -- originally a Colonial term which designated persons possessing mixed aboriginal and Spanish genetic inheritance but which, in the nineteenth century Republic, really meant "intermediaries" in terms of their abilities in the languages, in controlling the rural masses, in the operation of markets, and in collecting taxes -- and "blancos" ("whites"), although racial continuities between the rural and urban sectors were quite apparent despite a tendency for a more European appearance to coincide with higher class.(3)

The Atusparia Uprising takes its name from the "Indian", Pedro Pablo Atusparia, who in 1885 was the incumbent of an office known as alcalde pedaneo (or alcalde ordinario), the highest official of a major division of the rural sector, one responsible for managing important religious rituals as well as for supervising corvee labor and collecting taxes. Atusparia's name happened to head the list of "signatories" (with x's, of course) to a petition to the Department's highest authority, the Prefect, one Colonel Francisco J. Noriega, requesting a reduction in corvee labor, the lowering of the salt tax, and a reduction in the contribucion personal, a traditional head tax. The authorities not only refused to consider the petition, a mildly worded document which obviously could not have been prepared by illiterate "Indians", but had Atusparia and other rural officials jailed, flogged, and their braids cut off. The Prefect then journeyed to the town of Aija on official business and to observe progress in the construction of a telegraph line which was to connect Huaraz with Lima. Meanwhile, in Huaraz, on Sunday, March 1, when more rural leaders came to protest, they too were jailed and mistreated. On March 2, several hundred peasants gathered in the city. After they were fired upon by the local garrison in order to disperse them, they camped on the hills, gathering their forces, and on March 3 they returned to take the city. Those troops who were not slaughtered in the battle, escaped to the south, met the Prefect who was returning to Huaraz, and all managed to retire to the coastal city of Casma.

Kapsoli (1979:247) identifies the movement as anti-fiscal in nature. According to Reina Loli (1969:35), the contribucion personal was "the determining factor" of the revolt. What caused the authorities to increase taxes in the rural sector? At that time, it will be useful to understand, Peru was suffering one of its most intense socio-economic crises. The nation had lost the long, painful, and destructive War of the Pacific, 1879-1883, suffered the Chilean occupation of its capital for three years, and was experiencing a protracted civil war carried on by factions of the ruling class. Peru was exhausted by the war and the harsh terms dictated by Chile in the peace treaty (October 1883) that concluded it. The government was headed by President Miguel Iglesias, who had signed the treaty for the nation and was supported by the exporters of cotton and sugar, and other commodities for the world market, who wished to resume their commercial operations. Business interests, however, expect their state apparatus to find ways to pay for itself; they are not eager contributors to the administration. Thus, the Iglesias government sought income in order to carry on its administrative operations and to preserve itself from the onslaughts of its rivals, the principal ones being General Andres A. Caceres, a war hero who was opposed to the peace negotiations with Chile and, consequently, a popular national figure, and the former Dictator Nicolas de Pierola, self-proclaimed "Protector of the Indian Race", who had taken control of the government in December of 1880 when the elected President went to Europe seeking funds to pursue the war. Caceres was clearly the favorite, and most of the outbreaks of factional violence in the nation between August 1882, when Iglesias issued a manifesto in search of peace with Chile, and December 1885, when Iglesias resigned and Caceres assumed the Presidency, were attempts to oust an unpopular president, placed in office by Chilean arms, and conducted by the Cacerists, many of whom expected reward for their efforts. It is worthy of note that President Caceres, like his predecessors, relied on the contribucion personal among other taxes to pay for his administration.(4)

In the beginning of his quest to lead the nation, however, Caceres appealed to populist sentiments, uniting all social classes in the struggle against the Chileans first, and later against Iglesias and the peace treaty. His troops consisted of remnants of the national army, urban militias, and masses of peasant irregular forces. The lack of funding eventually caused the attrition of his forces, especially in view of his failure to achieve a decisive victory--although his several escapes from complete defeat were spectacular--despite his continued popular support. Peru's commercial powers distrusted him until he gave up his intransigent and populist posture. He finally accepted the peace treaty and repudiated his peasant supporters, to the point of having several of the latter's leaders shot. Now acceptable to the large landlords, export interests, professionals, and urban masses, he managed to acquire the force to overcome Iglesias government. Iglesias, no longer usable and indeed an embarrassment in view of his agreement to the unfavorable peace terms, was disposed of once a reasonable substitute was found.(5)

It has been necessary to digress in this manner--or seemingly to do so, in view of this essay's focus--in order to show the linkage of the Atusparia Uprising with the nation's factional politics. The day after Huaraz was taken by the peasant insurgents, a mestizo named Manuel Mosquera was appointed to the office of Prefect of the Department, and this is what gives the movement what Antunez de Mayolo (1957:7) calls its "political aspect against the Iglesias Government . . . there existing among the mestizos those who might have instigated the Indians to resist the payment of the contribucion."(6) Piel (1970:312) refers to the activities in Huaraz of "a political agent of General Caceres, involved in the movement directed against the Iglesias government," and this individual was undoubtedly Mosquera, although other mestizos were also involved, perhaps those who helped the peasant leaders to phrase their petitions, not to mention Pierolists in temporary alliance with Cacerists. Therefore, while many accounts of the Uprising, influenced by the 1885 journalism, refer to it as an "Indian revolt", in reality it was an event which encompassed the social totality, an alliance of many different social sectors. In the context of the earlier discussion of the nature of the servile social order of nineteenth century Ancash, it will be apparent that no "peasant rebellion" could have occurred without patronage from at least some urban citizens. Thus the uprising had to be more complex than a simple "race-war" or "class-war" as it was pictured in some journalistic accounts, where two sectors of regional society struggled for supremacy. In reality, there were few rural persons who lacked socio-economic ties to at least one patron in town, if not the direct ones which colonos had with their landlords (hacendados, the owners of haciendas), then the more diffuse bonds between the small agricultural operators of estancias, independent communities, and their employers, creditors, outfitters, and buyers of produce. All this does not contradict the injury felt in the rural sector by the increase in taxes, especially by small-holders who saw their petty properties threatened by the mortgages which the need to generate cash would occasion. The outburst of March 3 was genuine enough. At the same time, it must be remembered that the hacendados were also threatened by the loss of their colonos' labor-power, more of which was now required to generate wealth for the central government.

Huaraz, like other cities and towns in the Peruvian hinterland, was a center of support for General Caceres and resistance to the conclusion of the war, the terms of which seemed to have benefited only the larger commercial operators. The unpopular Prefect Noriega, energetic in his efforts to generate revenue in both the urban and rural sectors, which was to be removed from the region, and persistent in his forceful recovery of public properties which had been usurped, encroached upon, or otherwise taken over by persons powerful in the regional power structure during the wartime confusion and absence of central control, also exercised zeal in his persecution of Cacerists, looked upon by many urban people as resistance heroes. By the time of the uprising, Noriega had earned the enmity of everyone in the city who was not attached in some advantageous way to the regime in power. Valladares and Piel (1977:166) point to a central background issue: The problem is knowing if Cacerist mestizos were allied with the movement from the beginning, that is, in its organizational phase, or if they only joined it after the invasion of the city of Huaraz.

Even without documentary evidence the following hypothesis can be phrased: Quite a number of townspeople, in addition to Manuel Mosquera, were informed about the coming event and were involved in preparing it. However, they were not prepared for the violence of the rural reaction, which surprised them by its intensity; they were given additional cause for alarm when elements in the movement clearly began to carry it beyond their control. All of this seems ultimately to have led the Cacerist petty patrons, the owners of small estates and shopkeepers, to seek amnesty from the powerful government force which appeared in the region, which from their point of view was much the lesser evil. Thus they fled from the movement which they had helped create and they repudiated it, but it is not to be doubted that during the time Huaraz was held by the insurgents they endeavored to derive advantage from it in every way they could.

The region of the Callejon de Huaylas was only relatively isolated from Lima, and so the capital learned about the uprising within a few days of its occurrence. Communications from Huaraz seem to have had little trouble in reaching the newspapers, but, as has been pointed out, the censorship regulations prevented their publication. Aside from brief references to "happenings" and "disturbances" in Huaraz, they took no detailed notice of the event until April 9, the day after a new Prefect, Colonel Jose Iraola, was appointed, to take a second expeditionary force to pacify Ancash. Editorials appeared in the leading daily newspapers, as well as signed and unsigned letters which described the events of the uprising, and eventually the papers published the official bulletins sent by Iraola from Yungay and Huaraz.(7) At the beginning of this continuing commentary and controversy, some sympathy was shown for Prefect Noriega but this very quickly changed to condemnation of his "oppression" of the "Indians." On May 7, El Pais, a Pierolist organ, published an editorial which denied that the movement was a "race-war", a "commune", or that it had a Cacerist connection. The unofficial daily of the Iglesias faction, which called itself El Campeon ("The Champion"), followed with a critical rejoinder on May 12 in which it characterized the movement as "antisocial, as contrary to Justice, and as essentially communist." It referred to the mestizos "who incited the Indian mob" as "precisely the victims" of it, and condemned both Caceres and Pierola for being responsible for the disorder. Then on May 30, El Campeon followed this with another editorial polemic against Iglesias' rivals in which they were accused of disturbing "the feeble intelligence of the simple populations of the interior", and in which Noriega was described as an "ignorant Prefect without moral culture." Thus Iglesias original representative, who was in Huaraz to carry out orders to generate income for the central government, was made a scapegoat along with the Ancash peasants. Most of the other documentation in the newspapers supports this point of view, despite the initial credence in a letter from Noriega (El Comercio, April 9), in which he placed blame on the subversive activities of certain residents of Huaraz.

This essay will focus on three journalistic items: first, two unsigned letters from the same correspondent in Huaraz, apparently to a friend or relative in Lima; second, an obituary of the commander of the Yungay Urban Militia, killed in action; and, third, an editorial reprinted from a Huaraz newspaper which celebrates Caceres's victory in December. The two letters were published on June 22, although they were dated May 26 and June 5, by El Comercio, a newspaper which, according to Basadre (1969,9:81), represented the interests of a modernizing segment of Peru's ruling class and was "hostile or cold" toward the Iglesias government. These letters deal with the situation of Huaraz's urban class. The first reads:

> After a forced silence of around three months, at last I can reopen our correspondence. I would be pleased to give you a detailed report of everything that has happened during this unhappy period, but my time is short because they say that the mail will leave very early. Nevertheless, since I think you will be eager to know what is essential in this great tragedy which has already cost the lives of nearly three thousand Indians, I will try to be brief but not omit what

Indians, I will try to be brief but not omit what is important, because probably true reports are not to be obtained there [in Lima], unless they are quite falsified, especially if the public, which is sometimes hasty, has given credit to Noriega.

At the end of February, Noriega published an edict fixing the share of the contribucion personal at two soles silver per semester, with a set term for its collection. The Indians, who believed they would not be able to pay this excessive tax, petitioned, pleading that Castilla had abolished tribute,(8) that they had become very poor as a result of the war, that being occupied every day of the week in forced labor on the new cemetery they did not have time to work in order to earn the sum they had to pay, and that in view of these considerations they hoped that the tax would be reduced for them. Noriega jailed Manuel Estevan Saenz, alleged author of the Indians' appeal, and several alcaldes ordinarios [community heads]. Among the latter was Atusparia, later to be famous.

On March 2, around a hundred Indians came to the city to demand the release of their alcaldes and the lowering of the contribucion when, unfortunately, a false alarm struck the spark of the great conflagration which today has been extinguished with blood. What happened was that a woman gave a cry of alarm to the military posts, shouting that the Indians were coming in strength to take the city. When the Indians were found in a group in the plaza they were dispersed with firearms, and some of them were killed. Moments later, the Indians gathered in greater number on the hills which dominate the city.

Since Noriega was absent, the commander of the troops ordered several groups of soldiers to disperse the Indians, and so skirmishes took place all day, in consequence of which seven soldiers were dead of clubbings, as well as a number of Indians. Here Granados(9) made himself famous on Pumacayan Hill for carrying on an unequal combat with slings against a cavalry force which he made retreat.

When night came the Indians did not leave the hills. They had passed the word throughout the Province for everyone to come to fight early on the next day. The soldiers, on their side, did not eat during the whole day, and during the night they kept watch for the enemy.

On the next day, the third, at eight in the morning, hostilities were renewed, and at three in the afternoon the Indians attacked the entrances to the city. The troops had to abandon the plaza, leaving more than fifty of themselves dead. The military post was taken by the Indians who clubbed eighteen individuals to death in the most cruel and savage manner that you can imagine. There on bended knee died Don Protacio Gonzalez, the worthy Captain Delaveau, Major Segura, Lieutenant Rios, and the famous Vergara who almost killed Tovar and Colonel Duran in Puga's time.(10)

The defeated troops were caught up with on the bridge at Shansha, an hour from here, and barely some thirty of them were saved, according to what is said. Noriega also made his escape on horseback. He was on his way back here, and he met up with the troops who were running away, defending their retreat, or rather their escape.

The Indians controlled the situation. They sacked the shops of the Chinese residents(11) and the house of Cipriano Gonzalez. They began to reveal their sinister designs for killing people dressed in city clothing, and they insulted and threatened everybody in the most shameless manner that can be imagined. On the next day they met and proclaimed Mosquera the Prefect. They drew up a stupid act, one which all of us without exception had to sign on pain of losing our lives by clubbing.(12)

Everything that happened on the succeeding days is too long to tell: it is enough to say that they even wanted to kill Mosquera himself, and that families felt they were obliged to leave the city for fear of being assassinated. We too left this generous city on March 16 to set up a temporary residence in Paltay where our worries and fears continued at every moment.

Vain with their triumph, they sacked and burned several houses in Carhuaz and advanced to Yautan where they lost fifty Indians. Chacchan and Llanca were also sacked.

In Yungay there also commenced a dispute with firearms between the whites and the Indians of Mancos. The Indians, who were thrown back daily, appealed to the bravery of the ones in Huaraz who were happy to join them. They surprised Yungay, made families run to the church, sacked, murdered, and came out loaded with splendid loot, prouder and prouder with this new triumph. Mosquera could have avoided this savage invasion, but he was more concerned with punishing traitors and getting fines from them. He is without doubt the foremost one responsible for all the misfortunes which then took place. Atusparia was the only one opposed to this procedure, as he has also been the only generous and noble Indian in all the events of this savage struggle.

For all their expeditions, which were continually setting out, they insisted that the whites go first. It was necessary to quiet them by giving them money and more money.

With this most easy victory they believed they were invincible. From then on, their threats toward people in city clothing became more serious. Publicly, and blandishing clubs, they announced that they were the only owners of Peru, that they were going to reclaim their rights which had been usurped; they would butcher the whites and mestizos and marry the white women, once their victory was complete. But the Indian women were not in accord with the last part and they announced that they would slaughter the white women.

To give an idea of the cruelty of these barbarians it will be sufficient to say that they planned their clubbings to death so as to begin at the feet, saying that when they started at the head many people died without much suffering.

Eventually, after more than two months of the most stupid tyrany, of the most complete scarcity and poverty united with continual fears and worries, it was learned that the Government forces had occupied Yungay, having conquered the Indians in all the mountains. Immediately, the Indians here sent out orders, calling all the estancias communities and Provinces, and soon they put siege to Yungay, their number being perhaps ten thousand. For this they obliged everyone to march with them, with no exception, under threat of being clubbed to death and our houses set on fire. Antolin Robles and Padilla were taken and had to pass out money to them. It occurred that there remained in town no person with a professional title, with the exception of the white teachers. People carried out their orders in fear, under threat.

For several days partial combats took place until, finally, they were completely defeated, leaving more than a thousand dead Indians, most of them shot, according to estimates. One day, poor Montestruque(13) was looking at troop positions with a spyglass and was mortally wounded, dying two or three days later.

The Indians were so sure of their triumph that they refused at any price to enter into negotiations with Prefect Iraola. What they insisted upon was the delivery of arms and supplies, and also the person of Collazos,(14) the main object of the anger and hatred of these barbarians, whom in the end they managed to force out of the Department if they did not kill him. They had marched to Yungay with their barretas [utility bars] to destroy the houses there and in Caraz, brick by brick, but Providence prevented them from carrying out their incredible purpose. The life of Mosquera was threatened repeatedly, he being accused of wanting to make peace, of betraying them.

A few days after the defeat, that is, the third of this month, the Government forces occupied the plaza [of Huaraz], surprising the Indians who were celebrating a fiesta in Soledad Barrio and who ran off in terror, leaving a few dead. This day they had been planning to slaughter the whites and sack their houses when the fiesta was over, but happily when they were in the midst of the fiesta they were surprised, their malevolent intentions thereby being foiled. A few shots were fired in Quilcay.

One Pedro Cochachin,(15) a miner from Uchcu called "Uchcu Pedro" by the Indians, had gone to Yungay with a party of armed men and he, refusing to give up, promised the Indians victory and made himself absolute chief of all the montoneros [bandits, or irregular troops], making them obey him blindly. This Indian came from Yungay, following the troops. Two days after the plaza was occupied by the Government forces, Uchcu Pedro began to menace the city every day, at times daring to engage in serious combats, for he now had under his orders more than five thousand Indians. On the ninth, the Urban Militia left from Belen Barrio to throw back the Indians who were making a determined attack. The latter were defeated without a loss to mourn on our part.

Uchcu Pedro was with his forces on the left bank of the Santa River, that is, in Calicanto, and Justo Solis(16) was occupying the right bank. On the tenth of this month Solis received a message from Uchcu Pedro, in which he was ordered to attack with his forces through all the entrances to the city on his side, burning and slaughtering all the inhabitants, in order to take the city. Solis was frightened by this order and, without doubt, not wishing to make himself an accomplice to such bestiality, sent his own communication to Prefect Iraola, requesting peace with guarantees for himself and his people. On the next day, Olivas(17) and Rodolfo went out, commissioned by the Prefect, to reach a definite agreement. Meanwhile, Uchcu Pedro, who was ignorant of this, attacked on the Calicanto side with such force that he penetrated to the Plazuela de Huaripampa, burning Palomo's house and sacking others, but the troops were reinforced and he had to yield. His forces were completely defeated after three hours of combat, leaving around three hundred dead Indians. On this day poor Moises Alegre died; he had been bravely reckless.

Solis, after signing a document with the alcaldes of the estancias which obeyed him, made all his montoneras [bandit gangs] withdraw. Thus the monstrous and absurd domination of the Indians ended.

Mosquera, stoned, disobeyed, and mocked by the Indians, still had the stupidity to follow Uchcu Pedro's side.

Everything that the families of Huaraz have suffered during these nine days of siege is unbelievable, for they have been on the point of perishing because of the absolute scarcity of food supplies.

The troops have conducted themselves well, and the Prefect is an educated gentleman, inflexible in carrying out his duties. Everyone is content with him.

Little by little, the Indians are turning in their arms but they are still distrustful and they have not come to the city up to today. Consequently, many basic articles are not to be had, among these firewood which cannot be obtained, not even for twenty soles a load. Therefore, although we are in peace, the situation does not cease being critical. The troops, lacking pay,(18) are discontented. There is no way of maintaining them here, although their continued presence is indispensable. Everybody wishes to leave these parts in fear that once the troops march away the Indians will rebel once again, as they themselves publicly declare. What would be suitable now would be to arm all the whites, a thing to which the Government should attend.

Atusparia and Granados were wounded in Yungay. The first, who conducted himself so well, has been the object of the Prefect's concern. He continues as Alcalde of the Indians [an error; as an invalid Atusparia could not carry out the duties of his office, and so he was replaced]. Granados and some others were shot as leaders of the Indians. Mosquera's wife, after being imprisoned for several days, has been set free under guarantees.

From the report I have given, you will see that Noriega with his violent measures and Collazos with his excesses have caused the Indian rebellion which cost so much blood. Noriega's letter [published in Lima newspapers in April] has caused a scandal here. It is the most monstrous slander that a man can concoct, and the most barefaced cynicism by an authority, which claims exactly the opposite of what he did.

The mail is leaving and I have no time for more.

P.S.--I will not leave out relating that the Indians wished to proclaim Anacleto as the Prefect in Mosquera's place, but this time he was prudent. Still, he was suspected of the death of a soldier. As a member of the troops [the Urban Militia] he is saved from shooting.

The second letter is printed immediately below the foregoing:

> Since my last, nothing notable has taken place here. It is just that the Indians continue to be withdrawn, and not a single one is seen here.
>
> Yesterday, on looking over the newspapers of the last three months, I see that you do not have correct information there on the events here, because an editorial in El Comercio gives credit to Noriega's words, and another in El Pais falsifies the facts in great part. It affirms that this has not been a race war. Actually, at the beginning, the Indian movement had no other object than resistance to the payment of the contribucion, but later the proportions and extension of this movement took the true character of a race war, as I anticipated in what I wrote you two days after this plaza was taken by the Indians.
>
> That it was a race war is proved by the order given by Uchcu Pedro to Solis, the insults and threats of which we were the objects every day, the fury with which they persecuted the whites in Yungay, and the sacking of their houses which had already taken place in Carhuaz against their own patrons. If they did not realize their designs, it was because they hoped to achieve victory over the Government's forces in order to bring about the fulfillment of plans they had imagined: of sharing the whites' properties and butchering them. This is a fact that is in the consciousness of the whole Department. In the last battles, the threatening cries of the Indians were heard: 'Troopers, get out and let us have the whites!'

The next item to be presented is an obituary by Ignacio Figueroa, a leading urban citizen of Yungay.(19) It was printed in El Campeon on July 17, under the title "Senor Manuel Rosas Villon, the Heroic Defender of Yungay", and is transcribed here in its entirety with the object of conveying something of the flavor of urban life in Peru's hinterland a century ago in its prose style:

> There are names which can never be erased from memory, names which should be indelibly engraved in the annals of history, because they symbolize abnegation, civic virtue, and heroism. Deserving of such honor is the name of one who was an exemplary citizen, Don Manuel Rosas Villon. We will never allow the mantle of oblivion to cover the glorious memory of his brilliant actions. We are thus obliged by duty in strict justice to offer due homage to his illustrious memory.
>
> Yungay, the city of his birth, was the scene in which he displayed, during his brief but precious existence, those excellent talents which occasioned for him such friendly feelings and such deserved applause. Possessed of very fine qualities, he was able to capture the regard of everyone who had occasion to deal with him. He always carried himself as a gentlemanly friend, honorable businessman, and enthusiastic participant in the well-being of people.
>
> Nobody exceeded him in affection for the place where he had the fortune of first seeing light. He loved it passionately, as one may feel toward one's dearest object, as a mother is loved. Education, the ornamentation of the city, public works, in short, the moral and material progress of Yungay, were his constant concerns. To his unceasing efforts is due in great part the realization of many local improvements: There they are, in everyone's view, in streets, plazas, and buildings, the fruits of the noble efforts of such a tireless worker.
>
> On different occasions he held the offices of Subprefect, Municipal Mayor, Treasurer, and many others, distinguishing himself in all of them by his accuracy, rectitude, and consummate honesty. He was an authority who earned respect as well as esteem.

> His was a generous heart, a frank and jovial character; he was fine in his manners, loyal and consistent in his social relations, very loving toward his wife whom he idolized, liberal by conviction, and with advanced ideas without ceasing to be a true believer or neglecting charity to indigents. In all he was a good friend, faithful spouse, and excellent citizen.

We received many eloquent proofs of his enthusiastic civicism. The last of these, the one in which he displayed heroic valor, that in which he made himself immortal, has surpassed all. Let us see how:

> Oh! Though it be great pain to our patriotic hearts, we must turn our eyes clouded by weeping to that bloody drama which has taken place in the Department of Ancash. The flowery Callejon de Huaylas was furnished by Providence to serve as the theater of the most tragic scene registered in the annals of our recent unfortunate land. Thousands of revolting Indians, furious as lions, descended from the rugged peaks of the Andes and threw themselves in mass upon peaceful settlements, giving themselves over to slaughter, pillage, and the practice of shameful acts. Huaraz was the first point at which this savage mob was let loose. It was directed next against Carhuaz, and finally this sweeping wave moved to dash against the walls of the sad city of Yungay.
>
> The resistance here was formidable. The Urban Militia composed of the most select Yungay youth with its valorous chief at the head, Don Manuel Rosas Villon, struggled resolutely for many days to defend the lives, honor, and most sacred interests of its inhabitants. However, neither the bravery nor the vigorous courage of the young defenders could contain the immense numbers of the assailants who, in barbarous mutilation, striding over bodies and pools of blood, penetrated to the main plaza in a destructive avalanche.

Then the horrible orgy of those savage hordes reached its climax. Fearful spectacle, but admirable all the same! Drunk with blood, the Indians, carrying human remains as trophies on their pikes, uttering the most terrifying shouts, threw themselves like wild beasts upon the bold patriot Rosas Villon. They surrounded him on all sides, confining him within a circle of fire from which it was impossible to escape. He did not lose courage at that but fought on heroically, killing many of his aggressors. He threw his now useless arms to the side, terrible thoughts entering his mind, and prepared for martyrdom. Harassed cruelly by his innumerable enemies, he threw himself into space from the bridge he was on, and entombed his body in the frothy waves of the abundant Santa River,----to fly to the mansion of the infinite, singular and eternal asylum of his truly great soul. A sublime and glorious sacrifice which the Spartans might have set apart as the most glorious deed of honor in the annals of their most legendary valor.

Yungay deeply laments the loss it has just suffered, but it feels very proud in having to tell its children about such a valliant patriot, who was glad to sacrifice his life on the altar of duty.

Fortunate are those men who, on descending to the tomb like Senor Rosas Villon, are reborn to immortality and receive the respectful homage of their compatriots. He has died, but to live eternally in the memory of his fellow citizens! Let the heroism of the Yungay Martyr serve as useful instruction!

The last item, presented here only in part, was printed in El Comercio on December 19, after General Caceres had entered Lima and proclaimed himself President. It is apparently an editorial, reprinted from a Huaraz newspaper with the same name, "El Comercio", and obviously represents the Cacerist faction there. It is dated December 11 and reads:

The unexpected news which the mail brought to us on Tuesday about the end of the civil war has caused a deep feeling of happiness in all truly patriotic hearts. After an involuntary silence, we enthusiastically greet the coming of a new era for this unfortunate country. We congratulate the modest and courageous General Caceres who has happily concluded his political program in the most glorious fashion, bringing down the ill-omened Iglesias Government which, imposed with foreign assistance, was bringing the country steadily into the most complete exhaustion. Glory to him and to all the valiant champions who have helped him in this work of redemption!

Today we can call ourselves free citizens, upon breaking the chains which imprisoned us. It is the obligation of each and everyone of us to contribute with determination to national growth. The raising of our political and moral prestige, overwhelmed by seven years of constant misfortune, depends on all of us. We must all join in this labor with the awareness of our power, and with the obligation of working, because the redemption of peoples is in work, now that we have the capacity to make a wise choice of the most capable persons, ones worthy of governing the Republic's destiny.

The Department of Ancash--which has passed through terrible trials, first with the absurd Indian domination which, ill advised and conducted even more poorly, placed the social order in grave danger, giving rise to a true race-war, and then with the efforts of all kinds which the past Government's authorities made in disregard of every principle--can do no less than rejoice from the triumph which the constitutional cause has brought about. With respect for law, all its liberties guaranteed, it will not witness in astonishment the smoke of conflagration rise from private property, under the pretext of punishing the disturbers of order, nor will it feel with terror the smack of homicidal bullets which in the stillness of the night pierced the hearts of so

> many unfortunates who had many times not committed any other crime than having cheered General Caceres. It will no longer witness the heroism of those devastating hordes, called Urban Militias, which were founded as Committees of Public Safety . . . In a word, there will not be seen more blood flowing upon the altars of the most monstrous vengeance, or under the pretext of upholding the most disgraceful and imbecilic Government that the nation has had. All this accumulation of misfortunes will cease, necessarily covered with the veil of oblivion, and the dawn of an epoch of reparation and advance will begin, while the authors of so many crimes will hide their shame, if it be that they have any, with the curses of all those who in horror have seen a whole people subjugated through shootings and burnings, and the destruction of private property.

President Caceres fulfilled the hopes of neither the urban nor the rural sector; not only did he reimpose the contribucion personal on the peasants but he also represented the interests of the big commercial exporters, not those of the ruling gentry of the hinterland. The last journalistic extract is significant because it is one of the few Cacerist expressions in the press of 1885 from Huaraz, the only self-proclaimed one. It not only makes reference to an alleged "race-war" but it also points out, not perhaps in the detail which we might wish, the terrible exactions of vengeance which the Urban Militias of the towns in the Callejon de Huaylas carried out, not only in the rural hamlets but among the urban Cacerists as well. Of course, Cacerists might well have filled the ranks of these self-appointed political committees too, and certainly the anonymous letter in El Comercio mentions a certain "Anacleto", known to the correspondent and his Lima counterpart, who was suspected of subversion but "saved" by his membership in the Huaraz Urban Militia.(20)

The last item also furthers the notion that the uprising was an "Indian" affair, but, more, it repudiates the movement as such by its picture of an "absurd Indian domination which . . . placed the social order in grave danger." Thus did the Cacerists of Huaraz separate themselves conveniently from the uprising they had assisted. It became the official view of the new Caceres government, just as it had been that of the previous regime, as it was recorded by Peruvian historians, and even as it has appeared in Peruvian prose and poetry.

The false journalistic view of the Atusparia Uprising represents the view of Peru's rulers whose interests, of course, were in reproducing social conditions rather than in changing them. To have accepted the peasantry as consisting of first-class citizens would have been contrary to those interests because it would have been revolutionary. Consequently, the "Indian" peasants were portrayed as "cruel and savage", "furious as lions" or "wild beasts", "drunk with blood" and emitting "terrifying shouts", who carried out their "sinister designs" against "private property" and against the urban class which owned it. These "barbarians", "vain with their triumph", committed "shameful acts" in "barbarous mutilation." They were a "mob", a "destructive avalanche", "carrying human remains as trophies", which "sacked and burned", appropriated "splendid loot", and believed themselves to be "invincible." Their victims, on the other hand, are pictured as good citizens under "threat of being clubbed to death and (their) houses set on fire", who were forced to give "bandits" "money and more money" for "fear of being assassinated." They were coerced into joining the rebels who "insisted that the whites go first." The "people dressed in city clothing" were subject to "continual fears and worries" from the "bestiality" of the "bandit gangs" who planned to share their properties and butcher them. Only Atusparia, "object of the Prefect's concern", was "generous and noble" and "conducted himself . . . well." (He had been wounded in an effort to retake Yungay from the Government force which occupied it on April 24, retired to Huaraz, and was apparently eager to accept Prefect Iraola's offer of amnesty. The advantage to both regional and national rulers of salvaging the rural authority structure, as much as possible, will be obvious.) Pedro Cochachin, rural co-leader with Atusparia, seemingly usurped the latter's position when he "made himself absolute chief" of the insurgents whom he made to "obey him blindly." He and his faction stubbornly resisted until he was captured and executed in September. (He held a commission from General Caceres, and so it is likely that he expected assistance from Central Peru. However, this aid never came, without doubt because Caceres himself was in the process of making himself presentable to the nation's ruling sector.)

The journalistic materials illustrate well the problem of a ruling sector which, because of its parasitic position in its socio-economic totality, does not understand that totality. One mestizo citizen, for example, is singled out as a paragon of "abnegation, civic virtue, and heroism," a "martyr" possessed of "vigorous courage" who was "glad to sacrifice his life on the altar of duty." This "excellent citizen" is credited with the "realization of many local improvements." It should not be forgotten that these public works--the pavements, municipal buildings, public flower beds, and even the schools in which urban-class children learned Latin and Greek--were built with the corvee labor of thousands of rural people who derived no advantage from the "improvments" they were making. Thus the ruling sector was not aware that by reproducing the servile structure of this social order it was also reproducing its contradictions.

When I arrived in the Callejon de Huaylas in September 1951, I saw the same social processes in operation that existed in 1885: a servile social order in which a peasant sector served the needs and requirements of an urban sector. In such a society, there will be a rebellious element in the servile class which is aware of oppression and exploitation and is ready to join in movement to change circumstances. However, the very nature of peasant conditions of existence intervene to limit effective coordination of any movement which develops: inter-class networks of patronage and clientage reconcile oppressors and oppressed through fictive reciprocity;(21) the peasant proprietors of the estancias and the hacienda colonos with allotments, alike, are unwilling to risk their lands which represent the only source of security in a most insecure universe; peasant programs of revindication tend to be limited, if not incoherent, which is illustrated by the fragmentation of the Atusparia movement after Prefect Iraola decreed the abolition of the contribucion personal; and peasants tend to be isolated from one another, despite their habits of cooperation and mutual aid in agricultural labors, for they do not complement each other in productive activities but, rather duplicate each other. Moreover, peasants are undisciplined, a trait which is clearly seen in the Huaraz situation on May 3: when the Government forces were marching into the city, the peasants were celebrating a fiesta and many of them were too drunk to offer resistance. Thus the Atusparia movement consisted of contradictory and disharmonious elements. In its social order, it could not project revolution but only reform: the reduction of tribute, not its elimination, the replacement of harsh authorities by gentle ones, and the coming to power of "noble" leaders who drive out "ignoble" ones (i.e., here the popular images of Caceres and Iglesias)--in short, the perennial peasant hope for "good" patrons, benevolent lords, paternal masters.

In Peru, it was not until the middle of this century that the masters of the hinterland began to lose their power, although their decline had set in somewhat earlier. The Peruvian land reform of 1969, which limited large landed property, put limits to servile labor, and helped peasants become independent economically, was the culmination of historical trends rooted in the nation's industrialization and the decline of its agriculture. Peasant movements in the 1960's took a new shape when they were joined by urban working-class elements, distinct from the middle-class reformers who have derived advantage from peasants in this century as they did in the last one.

The journalistic materials, written by the society's masters, constitute a vivid record of their limited and distorted consciousness of that society. They are not to be read as an objective account of the uprising, but they reveal the social causes of it: here are self-serving urban patrons, who are unable to reproduce the conditions of their own existence without the toil of their peasant clients, placing the burden of responsibility for the 1885 events on the latter, and on a demoted, disgraced official. Moreover, while this record hides the petty politics which linked urban faction and peasant mass, while it obscures or denies urban participation in the movement except for a very few notorious individuals who are mentioned over and over again with remarkable repetitiousness, and while it portrays the urban sector as victim, it also reveals the eagerness with which these petty patrons of Huaraz sought to link themselves with the "winners" and to repudiate the "losers." It also shows how these burghers, filled with the illusions which fixed them in time and place, lost in a social universe they hid from themselves, must never have searched to guess the outcome of what would have been to them an unending series of uncertainties. They could develop no coherent view of history, no historical doctrine or program, but, only reproducing the conditions for their own disappearance, lived in a historical twilight. Such was the nature of the nineteenth century servile society of Ancash. Thus, in order to read through the journalistic disfigurement, it is necessary to understand the nature of the social and historical context in which it was written; and, thus, despite the self-beautification and prevarication, it can be forced to reveal something about the authors and about the society in which they lived.

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NOTES

1. The main sources on the Atusparia Uprising consist of a short history by Meza (1928) and a short novel by Reyna (1932), both based on oral history which these authors carried out themselves plus library work with the 1885 newspapers. Other sources would include Antunez de Mayolo's (1957) pamphlet and an extended reference in Basadre (1947:244-248), both based on the earlier works mentioned and a re-reading of the newspapers. Contemporary historians take a more critical view of the historical data: Reina Loli (1969) and Valladares and Piel (1977). Since this essay was written, the publication of Alba Herrera's (1985) careful and more complete study of the movement, based on a lifetime of reading and reflection, has suspended all earlier sources. For accounts of the movement in English, see Klaiber (1977:58-67) and Stein (1978, 1980, 1982a, 1982b, 1984, n.d.a, n.d.b).

2. For studies of patronage-clientage networks, see Wolf and Hansen (1967) and Strickon and Greenfield (1972).

3. For discussions of Andean social structure, see Bourricaud (1967, 1970), Davies (1974), Fuenzalida, et al. (1970), Mangin (1967), Matos Mar, et al (1969), Montoya (1978), Pearse (1975), and Vazquez (1961). An endeavor to analyze sectors of Peruvian social classes with a view toward elucidating consciousness is to be found in Lopez Soria (1977). See also Stein (1985).

4. The War of the Pacific and its aftermath are covered in volumes 8 and 9 of Basadre's (1969[8 and 9]) well known history of modern Peru. (For a shorter history in English, see the relevant sections of Pike [1967].) Despite Caceres's populist image, which appealed to the middle sectors as well as the masses in Peruvian society, he was not a populist president. Not only did he reimpose the contribucion personal but he negotiated the notorious "Grace Contract" with foreign bondholders, an act which delivered into foreign hands some of Peru's most valuable resources.

5. Some of the details of the Cacerista program, its development and change, are to be found in two very useful articles by Manrique (1978, 1979). Manrique (1981) has also provided an excellent account of the role of Peruvian peasants in the resistance movement during the War of the Pacific.

6. Cf. Reina Loli (1969:32), who refers to "the political aspect with which the peasant movement of 1885 was impregnated, after the day of March 4, the moment when Dr. Manuel Mosquera was called by Atusparia and invested with the authority of Prefect of the Department."

7. These editorials and letters have been reproduced and discussed in Stein (1982b).

8. This refers to President Ramon Castilla's well known decree of 1854 which abolished the contribucion and emancipated Peruvian slaves. As Davies (1974:29) notes, the "abolition of the tribute caused severe dislocations in the Peruvian economy." It was therefore reimposed again the next year (Pasara [1970:54]).

9. Reyna (1932:27) refers to Pedro Granados as an "old soldier from the gendarmes who had let his braids grow." In the last attack on Yungay, the same author (ibid.:63) adds that "Commander Granados" received "eleven wounds" but survived to lead the rebel forces, along with Atusparia, back to Huaraz.

10. Huaraz had been occupied, for a time in June 1884, by Dr. Jose Mercedes Puga, leader of Cacerist forces in northern Peru. When Prefect Noriega arrived in November of that year, there were still remnants of these forces in the city.

11. During the third quarter of the nineteenth century, thousands of indentured Chinese laborers were imported into Peru. When their labor contracts were fulfilled, most of them had no way of returning to their homes and so they settled in various parts of the country, including Huaraz.

12. The peasants, of course, did not prepare the document which Mosquera called on the leading citizens of Huaraz to sign. This was a statement of support for General Caceres.

13. Luis Felipe Montestruque was a journalist, identified by Reyna (1932:37-38, 55-56, 63) as the ideologue of the movement. According to Augusto Alba Herrera (1985:190-191) he had been with Caceres in the resistance movement and had sought asylum in Huaraz after Cacere's worst defeat in July 1883.

14. Governor Jose Collazos appears to have been the one who, acting in the absence of Prefect Noriega, ordered the rural officials to collect the contribucion and, when they refused, maltreated them.

15. Pedro Cochachin was from the Province of Carhuaz. His image in the literature (e.g., see Reyna [1932]) is a revolutionary one in comparison with Atusparia. I have provided biographical data in Stein (1982a).

16. Justo Carmen Solis was a mestizo who, together with his brother Jose, led insurgent forces. After the Cacerists were in power, he returned to Huaraz and ultimately occupied important offices in the region (Alba Herra 1985:198-200).

17. Fidel Olivas Escudero was a Huaraz priest whom the Prefect employed in peace negotiations in May, after Huaraz was retaken by the Government forces. His pacificatory activities during the uprising are described in Ponte Gonzalez's (1945:83-101, especially 93-95 and 98-100) account of the 1885 movement. For biographical information, see Klaiber (1977:64-68).

18. Prefect Iraola, on May 4, the day after he arrived in Huaraz, requested the leading citizens of Huaraz to lend him funds in order to pay the troops. The response of the townspeople was less than generous. (See chapter 8 of Stein [n.d.b]).

19. Senor Ignacio Figueroa Fernandez was appointed Prefect of the Department of Ancash by the urban sector of Yungay and Caraz before Yungay was invaded by the insurgents. He was a powerful hacendado, notorious for keeping peasants locked up in his private jail and for his use of chains, stocks, and the pillory. He fled to the coast, before Yungay was invaded, leaving to Rosas Villon the task of leading the Urban Militia. (This information is to be found in a twenty-one page typescript of the 1974 symposium on the Atusparia Uprising. It was transcribed from a tape of one of the sessions. The speaker is unidentified and the date is not given. I am grateful to the Huaraz office of the national agency, the Sistema Nacional de Apoyo a la Movilizacion Social, for making this item available to me.)

20. This person is undoubedly Anacleto Mendez Loli, referred to by Reyna (1932:39-40, 80) as a composer of popular music who told his friends that "a poet never can be Prefect, because, then, who could make up verses against authority?"

21. Mayer (1974:222-223) describes the asymmetrical exchange relationships of patrons and clients in Andean society in the context of reciprocity. These personalized social relations tend to persist despite the obvious exploitation by patrons because peasant consciousness interprets them in terms of the "ideology of reciprocity", for the clients obtain "strategic goods and resources" from their patrons, even though they pay "knowingly . . . an extremely high price for them in terms of personal services, submissive attitudes . . . and in degrading circumstances."

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THE JUDICIAL RECORDS OF COLONIAL LOUISIANA: SOURCES OF ETHNOHISTORY

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Louisiana State Museum

The judicial records of colonial Louisiana are a rich but untapped source for the study of ethnohistory. These documents, the records of the French Superior Council (1714-1769) and the Spanish Cabildo (1769-1803), contain a wide variety of civil and criminal proceedings that greatly illuminate the economic, social, and political life of the many ethnic groups of colonial Louisiana. These documents (approximately a half million pages, and 247 linear feet) include a large number of successions as well as attempts by creditors to recover commercial obligations. The judicial proceedings, furthermore, contain a wealth of biographical, sociological, commercial and architectural data concerning the inhabitants of colonial Louisiana. Among the inventories of plantations and households, for example, are land surveys, architectural descriptions of houses, accounts of the administration of estates, business and personal contracts, correspondence, copies of wills, marriage contracts, and parish baptismal, marriage and burial records. Also included within the judicial records are petitions to the governing officials from slaves for emancipation, from merchants for licenses to conduct public sales of their goods, from ship captains for absolution from responsibility for losses suffered at sea, and from traders requesting permission to engage in commerce with Europe, the French West Indies, and the English colonies in North America.

The material contained in these proceedings offers the ethnohistorian a rare glimpse into the everyday life of the people of colonial Louisiana. While most other repositories contain official pronouncements, laws, and correspondence, the Louisiana Historical Center's Colonial Archives document the lives of a wide cross-section of Louisiana residents, wealthy and indigent, black and white, free and slave. They relate public and private feuds and business ventures as well as the political and economic evolution of the colony and are indispensable to the understanding of life in French and Spanish Louisiana.

In addition to the judicial records, the Historical Center holds other collections relative to eighteenth-century Louisiana. The first is a compilation of original documents relating to the French colonial administration, especially in Louisiana. Among these documents are such important items as the *Code Noir* of 1724, the Letters Patent to Antoine Crozat in 1712 and the Letters Patent to the Company of the West in 1717.

A second collection contains a series of transcriptions of documents and census lists from the archives of Paris made in the 1920s and 1930s. These include *Louisiane Correspondence Generale, 1678-1706*, 2 vols.; *Louisiane Correspondence Generale, 1768-1769*, 2 vols.; *Louisiane Passages, 1718-1724*; *Louisiane Recensements, 1706-1741*; *Louisiane Etat Civil, 1720-1734*; and *Louisiane Concessions*. There is also a four-volume set of transcriptions of documents from the archives of Spain made in the mid-nineteenth century. Most of the transcriptions include official correspondence among governors, intendants, ecclesiastical officials, and ministers in Spain. They cover a wide variety of topics, ranging from trade and treaties with the Indians to commercial restrictions and duties to jurisdictional disputes with the Church. While the bulk of the material was copied from the Archivo General de Indias in Seville, some of the documents originated in the Archivo de la Contaduria del Consejo de Indias in Madrid and the Archivo General de Simancas.

During the late 1930s and early 1940s the Works Progress Administration prepared many translations of colonial documents that are relative to the history of Louisiana. These include *Despatches of the Spanish Governors of Louisiana, 1766-1796*, 37 vols.; *Archives of the Spanish Government of West Florida, June 3, 1972 to September 22, 1810*, 18 vols.; *Records of the City Council of New Orleans: Book 4083, 1770-1792*; *Book 4087,1794-1803*, 2 vols.; *Book 4088, 1800-1803*; *Louisiana Indian Miscellany, 1682-1737*; *Pintado Papers, 1795-1817*, 9 vols.; *The Letters of Baron Joseph X. Pontalba to his Wife, 1796*; *Private and Commercial Correspondence of an Indigo and Cotton Planter, 1794-1800*; *Regulations, Edicts, Declarations and Decrees Concerning the Commerce, Administration of Justice and Policy of Louisiana and other French Colonies in America and French Manuscripts of the Mississippi Valley: 1679-1769*.

HISTORY OF THE JUDICIAL RECORDS

The history of these judicial records (commonly called the "Black Boxes"), their care and abuse, their organization and fragmentation, is almost as fascinating a history as the nature of their contents. During the course of the past two and a half centuries, they have undergone a strange odyssey, alternately subjected to neglect, looting, reorganization and physical and chemical deterioration. This story, however, is not entirely negative. In the past sixty years there have been several serious attempts to preserve the judicial records, organize them and make them available for research.

The early history of these records is tied closely to the development of the Louisiana Historical Society which was formed in 1847. The Society concerned itself initially with gathering documents and transcriptions of primary materials that related to the history of Louisiana. In 1848, the Louisiana state legislature formally appointed the Society as the depository of all public documents, state papers and journals. In 1860, the legislature moved the Society headquarters to Baton Rouge. Two years later, however, Federal troops captured Baton Rouge. This resulted in the scattering of the archives in the custody of the Society. Both Federal and Confederate troops looted the manuscripts which were removed to the surrounding grounds of the burning State House. After the war the Society tried, with only partial success, to recover the documents.

In 1877, the legislature moved the Society's headquarters from Baton Rouge to New Orleans. From the 1860s through the early 1890s, however, the Society endured a period of inactivity and its archives were moved from pillar to post, finally coming to rest in storage at the Tilton Library of Tulane University. With the revival of the Louisiana Historical Society in the 1890s, there came the first published references to "a number of wooden boxes containing judicial papers of colonial times" and the first suggestion that these records should be organized and classified (Fortier 1895: 3-9). Despite repeated calls for such action, the judicial records remained in their chaotic state until 1914, when the Society transferred the manuscripts in its custody to a new home at the recently established Louisiana State Museum in the Cabildo.

Almost immediately the Society made an arrangement with William Price of Yale University to undertake the mammoth task of preparing a card index and a partial translation of the French portion of the "black boxes." Price worked for about a year and a half, from 1914 to 1916, and made fairly good progress. His report to the Society offered scholars of Louisiana history their first glimpse of the tremendous value of the documents. This early inkling stimulated further interest in the organization and preparation of the records for researchers (Price 1914-1915:7-202). In 1916, because of working conditions, low salary and political differences with the Society, Price left the project.

After unsuccessful attempts to convince the Carnegie Institution and the Library of Congress to fund its project, the Society enlisted the support of William Radcliffe Irby. His financial assistance enabled the Society to engage Mrs. Heloise H. Cruzat, educated at the Ursuline Convent, and Miss Laura Porteous, educated at Newcomb College, to continue the work of William Price (Minutes of the Louisiana Historical Society 1922: 209-213). Mrs. Cruzat, working with the French Superior Council records, and Miss Porteous, with the Spanish Cabildo documents, prepared synopses and translations that were published irregularly in the Louisiana Historical Quarterly from 1920 to 1948 (Cruzat Jan 1922-Jan 1943; and Porteous Jan 1923-Jan 1948). By 1925, however, the Irby funds for this work were exhausted and the project was taken over by the Louisiana State Museum. In 1936, Works Progress Administration (WPA) funds expanded and augmented the project. During the WPA project, calendars were prepared for both the French and Spanish collections, and efforts were made to "restore" deteriorated portions of the records. The documents were also reorganized. The collections were not returned to their original "provenance," however. Those engaged in the project reorganized the French collection according to arbitrary subject headings, and the Spanish records according to chronological order.

Unfortunately, during the period from the late 1940s to the mid-1960s, no action was taken to renew the work of organization. The documents languished without order in the notorious "black boxes" and metal file cabinets in a vault on the first floor of the Presbytere that had no temperature or humidity controls. From 1964 to 1966 the Friends of the Cabildo (the associate group of the Museum) enlisted the voluntary efforts of Mrs. Connie Griffith, Special Collections Librarian at the Tilton Library of Tulane University. Mrs. Griffith placed the Cabildo records in chronological order and put them in acid-free Hollinger boxes. The documents were transferred to a location in a humidity-controlled vault on the second floor of the Presbytere.

In 1974 a Museum staff member with training in the fields of paper conservation and archival arrangement began to clean and delaminate those documents that the WPA had treated earlier. The French Superior Council records were removed from their old wooden boxes, placed in acid-free folders and arranged chronologically in Hollinger boxes. The collation of the Spanish Cabildo records was continued.

In 1975 the Museum gave top priority to the development of the judicial records. In 1977, with a grant from the National Endowment of the Humanities, the Museum launched a project to calendar and microfilm the entire collection. The Museum has entered into an agreement with the Genealogical Society of Utah to microfilm its colonial records. This project will preserve the documents for posterity and at the same time make them available to a wider scholarly audience.

SOURCES FOR ETHNIC RESEARCH

The culture of Louisiana is as diverse as the ethnic groups that have contributed to her history: Indians, French, Blacks, Germans, Acadians, Irish, Jews, Spanish and

Americans. Historians have, as a rule, focused upon the contributions of the French, the Spanish and the Americans. The judicial records of colonial Louisiana, however, would be a rich resource for ethnohistorians interested in the other cultures and ethnic groups which have affected the development of modern Louisiana. Unfortunately researchers have made little effort to incorporate the major source material on these groups into the historical literature on Louisiana.

The black contribution to the development of Louisiana's culture and history, particularly in the colonial era, has been largely ignored. While the civil rights movement and the rise of black power awakened American historians to the significance of blacks, studies in Louisiana history have been largely confined to the nineteenth and, to a lesser degree, twentieth centuries. Other equally important times for black Louisianians have received scant attention. The colonial period is one such time.

Although the presence of blacks in Louisiana is recorded from the beginning of the French settlement and black contributions were many, literature on the subject is sparse. The introductory chapter of Joe Gray Taylor's Negro Slavery in Louisiana (Taylor 1963) is a good starting place, while John G. Clark's New Orleans, 1718- 1812: An Economic History (Clark 1970), provides a brief look at colonial slavery. Slavery in the French period is examined in Daniel H. Usner, Jr., "From African Captivity to American Slavery: The Introduction of Black Laborers to Colonial Louisiana," (Usner 1979), and James T. McGowan, "Planters Without Slaves: Origins of a New World Labor System," (McGowan 1977). The importance of slaves on an indigo plantation is related in Henry P. Dart's, "A Louisiana Indigo Plantation on Bayou Teche, 1773," (Dart 1926). John Duffy (1958), The Rudolph Matas History of Medicine in Louisiana, discusses some aspects of colonial medicine as it pertained to slavery. Black rebellion during the Spanish period is examined in Jack D. L. Holmes (1970), "The Abortive Slave Revolt at Pointe Coupee, Louisiana, 1795," and E. R. Liljegren (1939), "Jacobinism in Spanish Louisiana, 1792-1797." White reaction to a slave's attempt to poison his master and overseer using voodoo is discussed in Laura Porteous (1934), "The Gris-Gris Case: A Criminal Trial in Louisiana During the Spanish Regime, 1773," Donald

Everett's (1966), "Free People of Color in Colonial Louisiana," is a good beginning study of the free black population of Louisiana. Jack D. L. Holmes (1965), "Honor and Fidelity: The Louisiana Infantry Regiment and the Louisiana Militia Companies, 1766-1821," is good on the role of the blacks, both free and slave, in the colonial armies of the French and Spanish (Haas 1981). Marcus Christian (1972), "Negro Ironworkers of Louisiana, 1718-1900," provides a glimpse into a largely forgotten black contribution to New Orleans architecture.

Frank Tannenbaum (1946), Slave and Citizen: The Negro in the Americas, established the thesis that the French and Spanish were more humane to their slaves and treated them more as people than the English and Americans who treated them as chattel. David C. Rankin (1979), "The Tannebaum Thesis Reconsidered: Slavery and Race Relations in Antebellum Louisiana," however, has challenged this thesis. Rankin feels that although Louisiana law did contain many humane and liberal provisions it also had a darker side. The harshness of the law, contends Rankin, can be largely explained by the fact that its creators were moved to protect the slaves for commercial rather than humane considerations.

The Louisiana Native American Indian population was equally important to the success of colonial Louisiana. Their knowledge of food sources and building shelters enabled the fledgling French colony to survive when supplies ran low. The surrounding tribes also provided the French with Indian slaves whom they had captured during various raids in the neighborhood. The presence of Indian slaves is recorded in the judicial documents throughout the colonial period. Although Spanish law stated that Indians could not become slaves and Governor-General Alexandro O'Reilly issued a proclamation against Indian slavery, the colonists continued to hold Indian slaves until the Louisiana Purchase. John Duffy (1958), The Rudolph Matas History of Medicine of Louisiana, provides a brief study of Indian medicine and some aspects of Indian slavery in his introductory chapter.

The establishment of a stable and militarily secure settlement was a prime consideration of both the French and Spanish regimes. The immigration of people who were willing to work the land and to settle and raise families was the most logical way to accomplish this goal. The people who provided this basic foundation for the colony were the Germans, the Acadians and Canary Islanders (Ilenos).

Because Louisiana was not attractive to the majority of French people, the French government forcibly recruited many criminals and prostitutes for the colony. These settlers, however, proved less than satisfactory. By 1720 the Company of the Indies realized that other, more stable settlers were needed. Agents of the Company of the Indies visited Germany, the Low Countries and Switzerland. In each country they distributed pamphlets about Louisiana. They offered the hard-working peasants of these war-torn countries a fresh start on the Mississippi, promising land, seeds, tools, and livestock to all who settled there. The persuasiveness of this advertising bore fruit, for the indigent, war-weary peasants of the Palatinate, Alsace-Lorraine, Baden, Wurttemburg, Mainz, Treves and the Swiss cantons flocked to the promised land of Louisiana. J. Hanno Deiter (1970), The Settlement of the German Coast of Louisiana and the Creoles of German Descent, estimating that 10,000 Germans and Swiss left their homelands, states that no more than 6,000 settlers embarked for the Mississippi. Of these Deutschlanders, only about 2,000 reached the shores of the colony. Those who managed to survive the rigors and misery of the voyage provided precisely the qualities that Louisiana so sorely needed. A hardy, honest people, unafraid of work, the Germans probably saved the Louisiana colony. At first they concentrated their settlements along the Mississippi, a short distance above New Orleans. This general area soon became known as "La Cote des Allemands" (The German Coast). Later they pushed upriver near Baton Rouge and many settled in the Lafourche country and in other more isolated sections of the state. They provided most of the foodstuffs that sustained New Orleans during the colonial period.

A second group of industrious emigrants were the Acadians (Cajuns), whom the English expelled in 1755 from their homes in Acadia. Many of these exiles resettled in France where their needs and requests were ignored by the government for twenty-eight years. In 1783 the Spanish government, now in possession of Louisiana, decided to bring the Acadians in France to the colony. The Spanish believed that the Acadians would provide an additional buffer against the English (Americans).

As a result of negotiations between the Spanish and French governments, seven expeditions from France to Louisiana transported more than 1,500 Acadians to Louisiana. Their needs were of prime concern to the Spanish government which granted them tillable lands, good homes, farming tools and a financial subsidy until they were able to support themselves.

These seven expeditions from France to Louisiana, however, account for only approximately half of the Acadian immigration to Louisiana. Between 1755 and 1776 Acadians also filtered into Louisiana from the American colonies and the West Indies. The Acadians settled mostly in the southwestern section of the colony and remained, for the most part, isolated from the other colonists. Their contributions to the political, social and economic areas of Louisiana history are extensive and continue to the present.

In the late 1770s the Spanish government introduced a third group of basically agricultural people into Louisiana, the "Islenos". Because of the closeness of the British in Florida and Baton Rouge, the Spanish government decided that the number of Spaniards in Louisiana should be increased. At the same time vacancies in the Louisiana battalion developed and a second battalion created. To encourage the Islenos' willingness to immigrate to Louisiana, each family was offered a home, tools, seeds, livestock and the means of subsistence for at least four years. Approximately 2,500 Islenos were settled in numerous small villages in southeastern Louisiana around New Orleans (Din 1977:37-38).

The Jews constitute another ethnic group in Louisiana that have received relatively scant attention from anthropologists and historians. They arrived early in the colony's history and several prominent Jewish families were expelled by the Spanish after 1769. The smaller merchants and ordinary residents of the colony who were Jewish were not bothered by the government and to a large extent remain unknown. Bertram Wallace Korn (1969), "The Early Jews of New Orleans," provides an excellent view of several prominent Jewish families in colonial Louisiana. He studied their commercial affairs as well as the establishment of early Jewish life in Louisiana and the surrounding area.

The Irish who arrived in Louisiana at various times during the colonial period constitute another large ethnic group. The famine of 1740-41 and the Irish revolt against English rule in May 1789 contributed directly to increased migration from Ireland. Some of these refugees viewed Louisiana as an attractive new home.

Irene D. Neu (1967), "From Kilkenny to Louisiana: Notes on Eighteenth-Century Emigration," briefly discusses the career of Nicholas Michel Edmond Forstall who came to New Orleans from Martinique. During the French regime he served as Commandant of Opelousas and under the Spanish became an "alcalde" for the years 1771-1774, 1801 and 1803. James Alton James' Oliver Pollock: The Life and Times of an Unknown Patriot (James 1937) examines the relationship Pollock developed with various Spanish governors and his role as a purchasing agent for the Continental Congress during the American Revolution. Earl F. Niehaus (1966), The Irish in New Orleans 1800-1860, discusses those Irish who came to New Orleans after the Irish revolt in 1798.

One of the most despised Irishmen in New Orleans, at least among the French, was and remains Governor-General Alexandro O'Reilly. After the French colonists revolted against Spanish rule in 1768, Charles III of Spain sent O'Reilly to restore order. O'Reilly swiftly arrested the ringleaders and had five of them executed, thus earning the nickname of "Bloody O'Reilly." John Preston Moore's Revolt in Louisiana: The Spanish Occupation, 1766-1770 (Moore 1976), however, stresses the restraint and leniency that the Spanish commander displayed toward the rebelling colonists during an era of violence. O'Reilly also reformed the government and placed the colony on a better defensive footing.

Many of the extant judicial proceedings contain illuminating material on Louisiana's ethnic groups. The sources within the judicial records which provide the best tools for studying the economic and social histories of these people are the succession records. Most of the successions contain wills that usually provide the birthplaces and ages of the family. In many instances successions also contain the records of a family business or plantation. Also included are inventories which list both outstanding debts and family possessions ranging from clothing and food to farm equipment and slaves. Successions of military officers often contain earlier commissions that some had held with other governments. Records of emancipations granted to slaves for services rendered, correspondence with other colonies and documents concerning the administration and partition of estates are often preserved in these successions. Usually a succession will include the numbers and names of slaves with their ages, family connections, places of birth, color variations and occupations. In a few cases successions include provisions that white fathers made for their mulatto children.

Manumissions could not be granted during the colonial period without permission from the Superior Council or the Cabildo. The records, therefore, include many petitions for emancipation. These petitions are a useful source of information because they cite the reasons and conditions for the proposed emancipation. The basis of such requests was often the cruelty of owners toward their slaves. Slaves also instituted suits requesting that they be allowed to purchase their freedom. Additionally, free blacks requested permission from the court to purchase the freedom of their relatives [a very common practice]. Contracts signed by free blacks indenturing themselves to an individual or an organization for a period of years in return for their spouse's freedom constitute another type of available document.

The civil suits contained within these collections show the interrelationships of blacks with whites and blacks with blacks. These include suits to collect debts, to fulfill the provisions of contracts and to assert claims to property. Owners often contracted with ironworkers, cabinetmakers, locksmiths, masoners and other skilled artisans to apprentice slaves in those trades. This practice ensured that owners of plantations and large businesses would have skilled craftsmen.

Few scholars have used these documentary sources to study runaway slaves (cimmarrones), slave criminality, the legal status of slaves or their medical treatment. The procedures instituted against runaways provide significant commentaries and raise interesting questions on relations between slaves and masters. Why were the runaways such a persistent problem in Louisiana? Was it because of the inhumanity of the planters and the harsh life on the plantations? In many cases the slaves ran away because of the owner's cruelty or because of threats of punishment that the owners made which the slaves did not feel were deserved.

Slave criminality in Louisiana is yet another area that has received little attention. What were the various factors that influenced slaves to commit crimes? Were the crimes acts of slave resistance against their masters or impromptu events? Was slavery an inevitable breeding-ground for crimes against their oppressors? How did slave rebellions develop in Louisiana? The use of the judicial records might answer these questions.

The legal status of slaves in colonial Louisiana is an interesting area of study. The differences between the theory of law as set forth by the legal codes, the Code Noir and the Recopilacion de Leyes de Indias, and the reality of their application could be studied with profit. These laws did recognize the sanctity of the slave family to some extent and did permit manumissions. The provisions of these laws, however, appear to have been formulated to curtail rebellion, marronage and sabotage, essentially to protect the property of the planters and government officials. The colonial records suggest that appeals to the courts frequently brought slaves some protection from abuses by their owners. In cases involving injury to or abuse of a slave, however, the appeal made to the court by the owner was based on the destruction or damage to the owner's property. In no instance did the right of the slave to fair treatment enter into the matter.

The medical treatment of slaves is another area for further research. Ordinarily the interests of the owner prompted him to pay careful attention to the health of his slaves. Both work time and the life of the slave were too valuable to be lost through carelessness. Most owners, therefore, secured the services of a physician to treat serious illnesses. Physicians were, as a rule, paid according to the services rendered and many contracts existed that enumerate the number of slaves the physician was to treat and how much he was to be paid for each group.

Surgeons and doctors served as witnesses in lawsuits involving nullification of slave purchases. Often after a slave purchase, the new owner would discover that the slave had a disability which the seller had not disclosed. Medical authorities would determine the health of the slave and would give their opinion concerning the slave's ability to work. The legal authorities also consulted the medical profession for the evaluation of slave disabilities in manumission and succession suits. This expert advice helped the appraisers to arrive at a fair market price so that an owner or an estate would not suffer the loss of a skilled slave.

Another fruitful area for research is the involvement of the free blacks in colonial society. Free blacks owned slaves, purchased the freedom of their relatives, served as plantation managers and overseers and were merchants and ordinary citizens. The migration of the free blacks from the Caribbean into Louisiana and their impact on society also occurred during the colonial period.

Although Indians were used as slaves from the earliest settlement of the colony, and the survival of the colony at its founding depended upon the good will of the Indians, the role and involvement of the Indians in the development of Louisiana have not been thoroughly studied. That the Indians were not reconciled to their roles as slaves and proved troublesome chattel was evident. The settlers frequently hunted for runaways and took precautions against uprisings or attempts of neighboring tribes to rescue fellow tribesmen. The attitude of the French Superior Council toward the Indians is illuminated by examination of a succession from 1729. An owner freed his female Indian slave and provided for her after his death. The Superior Council, however, ruled that Indians could not inherit and gave the money to the Ursuline Convent. The nuns then assumed responsibility for the welfare of the Indian who entered the convent as a worker and probably led a life that was little different from the existence of a slave (Judicial Records of the French Superior Council Oct 22, 1729).

While the succession records provide an important insight into the political, social and economic conditions of the various ethnic groups, other documents in the collection provide additional information in these areas. The colonial government of Louisiana had been ordered to provide the materials necessary to assist in the settlement of the Germans, Acadians and Islenos. However, there are contracts in the records which indicate that private citizens provided greatly needed assistance to these settlers.

There are some difficulties in searching through the judicial records for information concerning the Germans and the Acadians. First, the term "Allemands" merits explanation. It included, in addition to those coming from the Holy Roman Empire, such diverse peoples as the Alsatians, Swiss, Lorrainers and people from the Low Countries. Even with this knowledge, the regional origin of the German emigrants is not always easy to determine. The form of the name, even when it is sufficiently recognizable, is frequently only a weak aid. One often discovers that many of the German colonists took French names before departing from Europe and were subsequently enrolled on the passenger lists under their adopted names. The French authorities in Louisiana, in some cases, Gallicized those names which they could not spell or understand. As for the Acadians, Spanish Louisiana began naturalization of the new colonists by Hispanicizing their names. Joseph LeBlanc thus became in Louisiana Jose Blanco. Civil suits for collection of debts, contracts, and other types of materials provide much information relative to the economic and social life of these people.

The impact of the Jews in colonial Louisiana has not received much attention from researchers. Korn provides much insight into the business dealings and personal lives of several prominent Jewish families in the colony. The smaller merchants and ordinary residents of the colony who were Jewish, however, remain largely unknown. There is nonetheless, evidence of communication and trade by the Jews in Louisiana with ports in the Caribbean, with the large cities of Europe, and the English colonies in the New World. They were involved in the slave trade and served as business agents for their partners or friends who resided outside the colony. Isaac Monsanto was one of the most prominent of the Jewish merchants in New Orleans and had wide-spread business dealings with all parts of the colony as well as Europe, the Caribbean and the English colonies. The Monsanto family was one of the few Jewish families to be expelled from the colony by Governor-General O'Reilly in October, 1769 on charges of illegal trade practices. The Monsantos suffered severe financial losses as a result.

Life in New Orleans offered the Irish similar opportunities under both the French and the Spanish. Daniel Clark and his nephew, also named Daniel, provide a case in point. The elder Clark came to New Orleans from Ireland via Philadelphia. He established himself as a merchant and became wealthy in a short time. Wishing to retire to the rural planter society, he prevailed upon his nephew to come to Louisiana to take over his urban business. The younger Clark soon became a merchant prince in his own right and became the United States Consul to New Orleans in 1800. Another Irishman who rose to position of power and influence was Maurice O'Connor, who in the late 1780s and early 1790s was the Commandant of both the German Coast and the Acadian Coast. Other Irishmen who were merchants and traders in Louisiana were Nicolas O'Farrell, Thomas O'Keefe, Austin O'Mally and Michael O'Hagan.

ORGANIZATION AND INDEXING OF THE JUDICIAL RECORDS

At the present time the researcher will find several problems in any attempted use of the judicial records. These records, for instance, present problems in organization and legibility. Documents were extracted from their original order and reclassified according to arbitrary subject headings. During the calendaring project these documents are being returned to their "provenance" although indexes of their artificial subject headings are being retained.

The extremely difficult paleography and advanced deterioration of the documents will also hamper the researcher. Many of the documents within the French Superior Council records were written by the individual litigants themselves, rather than trained court officials. This haphazard system produced many varieties of poor, virtually illegible handwriting. The different secretarial hands within both the French and Spanish documents will undeniably prove troublesome. The documents, moreover, have suffered from the ravages of nature and some unfortunate good intentions. Nearly every document contains a high acid content, insect damage, foxing and discoloration. The worst of the physical deterioration resulted from the abuses of the WPA during the 1930s and 1940s. The WPA applied large quantities of scotch tape and lamination to the documents without deacidifying them. Although the cellophane and scotch tape have been removed, some of the documents remain extremely difficult to examine.

Presently, researchers wishing to use the colonial records are restricted to the guides or indexes, in English with abstracts, that were published in the Louisiana Historical Quarterly. While researchers have been forced to use these guides in lieu of the originals, it is well known that they are not complete and contain many inaccuracies in translations. The WPA compiled another guide to these records--the so-called "Black Books"--ninety-four volumes of indexes of the documents in addition to those in the Louisiana Historical Quarterly. These, too, are incomplete and contain numerous mistakes. The guides (or calendars) contain errors concerning names, places, occupations and the text of the cases. They also emphasize the repetitive judicial procedures of the French and Spanish courts, ignoring factual, relevant information. The WPA microfilmed the French segment of the collection, but the quality of the film is very poor and mostly illegible. The documents, furthermore, were microfilmed at random, without any order, organization or target. These films are simply not adequate.

These two guides are supplemented by a card file that gives a genealogical digest of the data contained in the French and Spanish records. The cards are arranged alphabetically by the names of the principal parties in the original documents. There are, however, again inaccuracies and omissions, and some of the cards have been lost over the years. In addition to the problems presented by the physical conditions of the records and the inadequate finding aids, space for researchers in the Historical Center is limited and the staff small. The staff, however, will assist researchers in verification and location of the original documents that can be identified from the finding aids.

Upon the completion of the calendaring of the judicial records, the Historical Center will prepare an extensive index to the collection. The Historical Center intends to record this index into a computer. This computerized index will reference such items as names, places, dates and subjects. A future researcher who is interested in finding all archival citations for slaves in the area upriver from New Orleans, between 1780 and 1790, for example, will be able to feed these simple instructions into the computer. Within a few minutes concise results in the form of a printout will be available. This process will eliminate many tedious hours of leafing through index cards or calendars. The Historical Center also intends to survey the archival holdings of libraries and other museums throughout the United States and in other countries to locate those manuscript collections that relate to Louisiana. The appropriate collections will then be microfilmed whenever possible and added to the holdings of the Center. The archives and manuscripts division, in addition to the French and Spanish Judicial Records, includes a large nineteenth century collection. Within this collection are the Louisiana Territorial papers (1803-1812), early Statehood papers (1812-1834), personal and family papers, land grants and concessions, military rosters and plantation journals. The Historical Center's twentieth-century collection is small, but it continues to grow as the Center receives further attention in the media and both the general public and the scholarly community become increasingly aware of its existence.

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BLACK CARIB SETTLEMENT PATTERNS IN EARLY 19th CENTURY HONDURAS: THE SEARCH FOR A LIVELIHOOD

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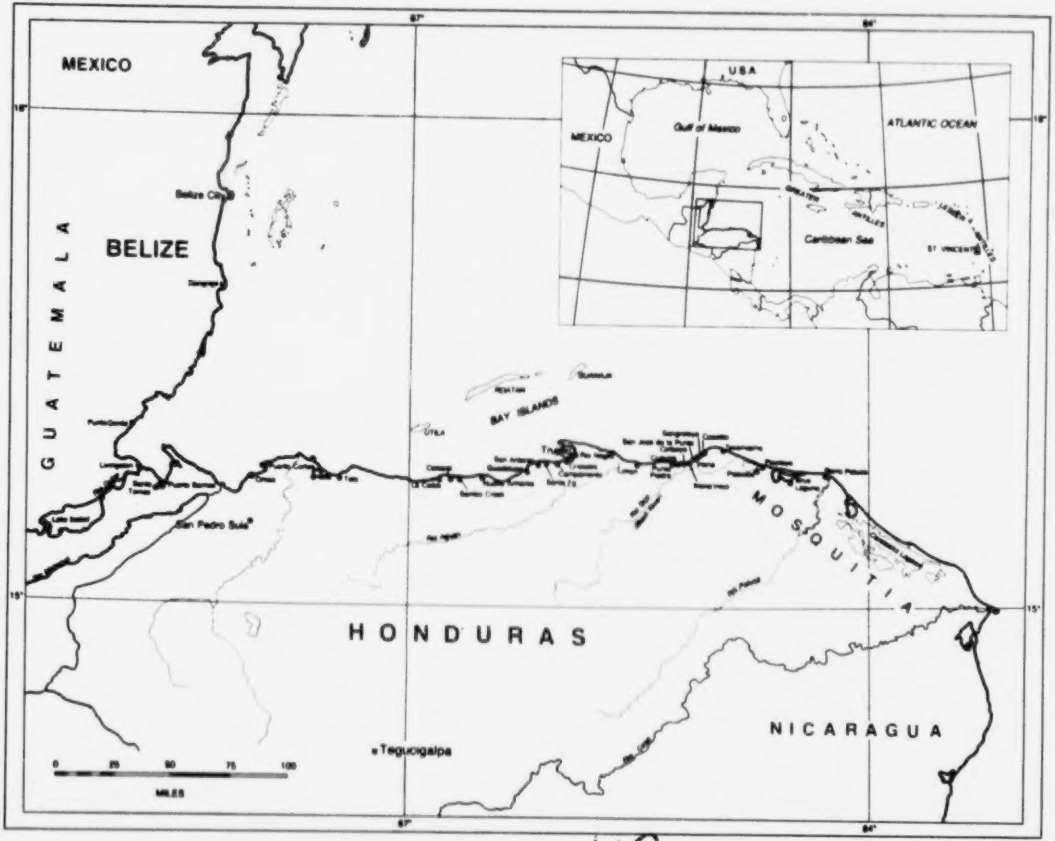
INTRODUCTION

When the Black Caribs, now Garifuna, were deported from St. Vincent in the Lesser Antilles by the British in 1797, they quickly abandoned the Bay island of Roatan on which the British left them, and sought refuge among the Spanish on the mainland of Honduras at Trujillo (see Map 1). Less than 2000 in number at that time, they soon multiplied--due both to a high rate of natural increase and to assimilation of other blacks already living in the area (Gonzalez 1984 and 1986).

Several authors (Beaucage 1982; Bolland and Shoman 1977; Davidson 1984) have assumed or asserted that upon arrival in Central America the Black Caribs were primarily dependent upon fishing and horticulture for their subsistence, and that their initial settlement patterns were dictated by the need to find suitable sites for those purposes. Although it is true that at the turn of the 19th century the Europeans on the Central American coast were


MEXICO
BELIZE
Belize City
G U A T E M A L A
H O N D U R A S
N I C A R A G U A
M O S Q U I T I A
BAY ISLANDS
ROATAN
UTILA
San Pedro Sula
Tegucigalpa
Santa Fe
87°
84°
18°
15°
0
25
50
75
100
MILES
USA
MEXICO
Gulf of Mexico
ATLANTIC OCEAN
GREATER ANTILLES
LESSER ANTILLES
Caribbean Sea
ST VINCENT

suffering severe food shortages, and that the Carib presence alleviated that through the sale of their fish and produce, we suggest that opportunities for wage labor, including mercenary soldiering, were more important in shaping their population movements and settlement patterns. It is the purpose of this paper to demonstrate that thesis, providing ethnographic, ethnohistoric and archaeological evidence to support it.

The paper is organized into six sections. The first section provides a brief overview of the methods employed in the project. The following two sections present primarily ethnohistoric and ethnographic information on Black Carib settlement patterns and material culture in St. Vincent and Honduras. These sections review the reasoning behind our hypothesis. The archaeological methods we developed to test the hypothesis are presented next, followed by the results of the field work. We conclude the report with a brief discussion of the methods and results.

METHODS

The hypothesis as stated above was derived from Gonzales' long term study of the Garifuna (Gonzalez 1986) which has included both ethnographic and ethnohistorical research (Gonzalez 1969, 1984, among others). The implications of the hypothesis were further defined with theoretical insights from archaeology and then tested with archaeological data.

The range of known ethnohistoric data was reviewed to gather information on settlement location in St. Vincent, Roatan, Guatemala, and Honduras and to identify the kinds of artifacts used by the Garifuna during different time periods. We recorded additional information on their economic behavior. The entire range of documents studied by Gonzalez during her broader research are discussed elsewhere (Gonzalez 1986). Those that were specifically useful for this research included early Jesuit missionary reports from St. Vincent, British military and diplomatic dispatches, Spanish military and political reports, Spanish parish files, and English and American traveler's reports.

Ethnographic methods gathered data on modern settlement patterns, economic behavior, and artifact use. We made observations and gathered oral data on trash disposal practices today and in the immediate past. The oldest residents of a community were interviewed to ascertain, through their genealogies, when particular settlements were first occupied.

Archaeology was chosen as the primary method of testing the hypothesis because of its ability to uncover physical evidence of settlement location through survey and excavation. We conducted a survey of the coastline near Livingston, Santo Tomas and Puerto Barrios in Guatemala, and near Omoa, Puerto Cortes, Trujillo, and Roatan, all in Honduras, in January of 1984. Between February and May, 1985, we continued the coastline survey between La Ceiba and the Rio Patuca, in Honduras. We also conducted excavations at Trujillo and tested every river mouth in two selected five kilometer strips between Trujillo and La Ceiba. Map 1 shows the sites investigated during the course of the second coastline survey and other places mentioned in the text.

By using independent data sources, including historical documents, we were able to develop more refined hypotheses about Black Carib settlement patterns and material culture in a manner that would allow each data set to be checked against the other. This procedure was particularly useful in establishing the date a settlement was first occupied, a crucial part of the research.

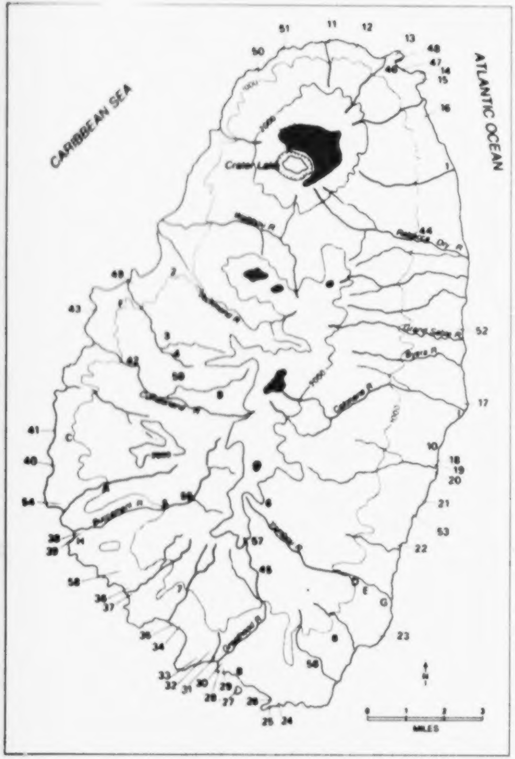
CARIB SETTLEMENT PATTERNS ON ST. VINCENT(2)

One might anticipate that the deportees would have tried to replicate the living patterns they had known and valued in their homeland. The Black Caribs on St. Vincent were descendants of Africans and Amerindians. The provenience of the former is unretrievable and, unfortunately, too little evidence exists from St. Vincent itself to tell us much about the settlement patterns of the people the Europeans began to call "Caribs" at the time of the conquest. Considerable controversy surrounds the question of whether ethnicity and artifactual materials can be correlated in the pre-conquest Lesser Antilles at all. The

Bullens (1972) believed that the pottery type called "Suazey" was made by Caribs, while the earlier "Saladoid" had been made by Arawaks--presumably predecessors of the Caribs and supposedly driven out or captured and incorporated by them. Rouse (1948; 1964; 1983) and many of his students have disputed this notion for more than 30 years (Allaire 1980 has been one of the more persuasive). Most scholars have, however, come to accept the idea that the Caribs were long-distance traders, providing an intimate connection between the South American mainland and the Lesser Antilles for some time before the European conquest (Civrieux 1976; Loven 1935:679; Morales and Arevalo-Jimenez 1981). If so, however, we have little archaeological evidence to support that view at present.

In any case, the work done by the Bullens on St. Vincent shows large numbers of prehistoric sites and a very few historic--presumably Black Carib--ones (see Map 2). Unfortunately for us, their interest in the historic period was only casual, and they were unable to uncover anything they could definitively identify as Black Carib remains at the few sites where Black Caribs were reported to have lived. Some of the latter were covered by volcanic eruptions early in the 19th century, and others have been destroyed by wave action or intensive forest removal and plantation agriculture. The Bullens did refer in description of which sounds very much like the ubiquitous "colono ware" now often attributed to Afroamericans from Virginia to the West Indies (Armstrong 1985; Ferguson 1978; Mathewson 1972; Posnansky 1982).

The Bullens' work makes it clear, however, that the earliest prehistoric sites on St. Vincent were nearly always on the coastline; this conforms with the early accounts by French Jesuits (Labat 1970; LaBorde 1674; DuTertre 1667-71) and others who began to visit and then live among them in the middle and late 17th century and early 18th century. Due to heavy intermixture with Africans from shipwrecks, escapes, and raiding forays by the Caribs themselves, the population on St. Vincent gradually became considerably influenced by African patterns--most notably in the areas of diet, music, dance, storytelling and religion (see Gonzalez 1986). Still a seafaring people, the Black Caribs continued to live on the coast, usually on elevated bluffs overlooking and with easy access to the beaches.(3) But by the middle



From Bullen and Bullen, 1972.

ARCHAEOLOGICAL SITES ON ST. VINCENT

Petroglyphs

A - Layou River
B - Indian Bay Point
C - Yambou 2
E - Yambou 3 aand 5
F - Petit Bordel
G - Yambou 1
H - Buccament Cave
I - Colonarie

Habitation or Occupation Sites

1 - Overland Old Road
2 - Fitz-Hughs
3 - Swatt
4 - Big Gut Water Tank
5 - Queensbury
6 - McMillan
7 - Government House
8 - Stubbs
9 - Hermitage
10 - Sans Souci
11 - Fancy
12 - Fancy Fields
13 - Owia
14 - Espagnol Point North
15 - Espagnol Point South
16 - New Sandy Bay
17 - Colonarie
18 - Peanut Field, North Union
19 - Carib Piece, North Union
20 - South Union
21 - Grant's Bay
22 - Spring
23 - Mt. Pleasant
24 - Sharp's Bay
25 - Golf Course
26 - Careenage
27 - Young's Island
28 - Indian Bay
29 - Texaco Tank
30 - Arnos Vale Swamp
31 - Arnos Vale Field
32 - Coconut Oil Factory
33 - Police Work Shop
34 - Kingstown Post Off.
35 - Red Cross Hut
36 - Camden Park
37 - Flour Mill
38 - Buccament West
39 - Buccament East
40 - North Mt. Wynn Bay
41 - Barrouallie
42 - Cumberland Ravine
43 - Troumaka Bay
44 - Lot 14
45 - Evesham School
46 - Owia Bay No. 1
47 - Owia Bay No. 2
48 - Owia Bay No. 3
49 - Petit Bordel
50 - Windsor Forest
51 - Quashie Point
52 - Grand Sable
53 - Biabou
54 - Rutland Vale
55 - Vermont
56 - Brighton
57 - Carapan
58 - Questelles School
59 - Copeland

of the 18th century ethnohistoric evidence suggests that some had begun to live inland as well, especially along the major rivers (Anonymous 1771). The French began to settle the eastern part of St. Vincent clandestinely at least by 1700, and the Caribs may have begun to retreat to more inland sites at that time. Certainly by 1763, when the British gained control, some Caribs were said to have had large inland plantations where they grew tobacco, cotton, and other items for sale (or barter) in Martinique (Davidson 1787:17). Presumably they desired to acquire some European manufactures in turn.

Although there is no archaeological evidence for their use of European goods on St. Vincent, some of the late 18th century sources describe the Black Caribs as having been quite sophisticated, and presumably, acculturated. The Baxters, Methodist missionaries to St. Vincent in 1788, noted that although they did not speak English, some of them were "greatly civilized" and a few could read--presumably in French (Methodist Missionary Society 1788: Box III). It may be assumed that by that time they had begun to use some European goods, including iron griddles for cassava-making, guns and ammunition, and perhaps more (Davidson 1787: 12, 17). The list of supplies sent with them by the British in 1797 includes osnaburgh cloth, fishhooks, several processed or foreign food items, and rum (War Office 1797: 1/82; see also Gonzalez 1984). Aside from the above-mentioned "peasant ware," which the Bullens attributed exclusively to the Black Caribs, we have no evidence that the latter ever made pottery, and if they did, no idea whether they were still manufacturing it at the time of the deportation.

THE HONDURAN SETTLEMENT

Because ethnographic evidence from work done by Gonzalez and others (Gonzalez 1969; Hadel 1972; Kerns 1983; Palacio 1984; Taylor 1951) in Guatemala and Belize since the 1950s has shown crop production, primarily the work of women, to be desultory, casual and relatively unproductive, Gonzalez questioned to what extent the Black Caribs in Central America had been dependent upon it in the early days. Beaucage (1970), who worked on the Honduran Mosquito coast, claimed that it was important and ongoing there, and recent work by the present authors confirms that. The ethnohistoric evidence clearly emphasizes that this was primarily women's work, and that the men spent long periods away from home engaged in wage labor--especially in soldiering for the Spaniards in the earlier days, and in woodcutting for the British from about 1800 onward. One might, of course, speculate that crop production had formerly been more important and that it had declined only during recent decades, since several early travelers specifically mention Carib "plantations," and the fact that they sold their produce to outsiders (Roberts 1827: 272-273; Wood 1840:52; Young 1847: 123-124). Indeed, the fact that the Caribs were successful in growing provisions where others had failed was lauded by the governor of Trujillo shortly after their arrival there (Anguiano 1813).

However, the locations of Black Carib villages noted by early 19th century travelers were not distributed systematically on or near arable lands adjacent to Trujillo, where they first landed. Had they been primarily interested in a self-sufficient horticultural and fishing economy, they might have been expected to disperse themselves in suitably small groups radiating out from that center--moving out as population expanded and soils became exhausted. The present villages of Santa Fe, Guadelupe and San Antonio were apparently settled in that manner (See Map 1). But the evidence is that most of their 19th century habitations were clustered near major seaports and woodcutting operations, in both Belize and in Guatemala and Honduras. One section of the coastline of Honduras that is today a major agricultural zone, i.e., between Cortes and La Ceiba, was apparently uninhabited at the time of the Independence (Dunn 1828: 235). Not until the end of the 19th century did Black Carib villages begin to spring up there. Furthermore, settlements once existed near European "experiments" such as Abbotsville (Griffith 1965: 222) and Santo Tomas (Perez Valenzuela 1906) in Guatemala, but they have long been abandoned.

We therefore hypothesized that wage labor was the driving force, and that the cultivation of crops (other than cassava, which has the advantage of being easy to grow almost anywhere) was a secondary factor in determining 19th century Black Carib settlement. If the latter had been the primary determinant, the settlements should have been found on or near those features of the natural environment particulary valuable to cultivators. In this high rainfall tropical climate, these would be primarily fertile, forested terrain, adequately drained. In addition, it is reasonable to assume that they might have desired easy access to fresh water and that they might have tried to replicate the physical settings they had inhabited in St. Vincent--namely, river banks and high bluffs overlooking the sea. We determined to review the physical characteristics of the Honduran Coast and to use this information to design a survey to test the competing hypotheses.

The distribution of arable land along the Central American shore of the Caribbean, especially Honduras, needs to be considered in relation to the kinds of crops grown by the Black Caribs. Today they have what is basically a tropical forest horticultural tradition based on manioc and other root crops, and supplemented by the introduced rice, banana, plantain and coconut. While the importance of introduced foods has increased as a result of outside influences, the foundation of their subsistence economy has always been tropical forest root crop horticulture. Their dietary inventory today varies somewhat by country, and many European foods have been adopted--especially in Belize where most foods are purchased today (Palacio 1984: 2). But aside from those items mentioned above, most of the crops grown "for sale" in the early days were those they knew in St. Vincent. Europeans and others who purchased from Black Caribs learned to like what was available, rather than expecting them to produce to please the market. And this subsistence production was largely the work of women. When commercial markets were sought--as in the banana "boom" at the turn of the 20th century, or during certain brief periods when palm nuts or copra were in demand--men have become more involved, but such instances have been exceptional (see Helms 1969 for an analysis of the effect of such "booms" on local economies).

Consultation with agronomists familiar with the soil resources of the coastal areas of Honduras and research on tropical forest agriculture revealed that while cash crops such as bananas needed the rich soils of the river valleys to be commercially successful, root crops--especially manioc--can be grown almost anywhere so long as there is good drainage.(4) In fact, we were surprised to see manioc gardens in the sand dunes along the shore as well as inland on hill slopes an in densely forested areas. The coconut, of course, is ubiquitous in beach environments, and indeed, like the mango, served as a good indicator of the location of abandoned settlements during our coastal surveys. In summary then, the distribution of arable land suitable for gardening along the coast of Honduras and Guatemala can be said to be more or less continuous, with exceptions only in those areas that are excessively swampy.

In addition to the above, an invariable factor in Black Carib choices of habitation sites was access to the sea. This provided them with the various products of the sea, as well as a highway for transportation from one community to the other. Locations which provided these benefits included bluffs above the shore, the beach itself, and short distances up streams and rivers navigable by native canoe.

Access to fresh water meant living on or next to major streams or rivers where they emptied into the sea or where there was fresh water available through shallow wells dug in the beach (see also Davidson 1976). The latter situation is less common as a major source of fresh water, although it is found as a supplemental source in a number of modern villages. Only Punta Gorda in Belize, so far as we could determine, has no fresh water source and relies on rainfall catchment alone. The nearest well today is seven kilometers inland. Living on or up fresh water streams facilitated fishing during the annual spawning season of anadromous fish--a practice they had known in St. Vincent (Davidson 1787).

Based on this review, the primary environmental determinants of settlement location for new Garifuna settlements would be access to fresh water for drinking, cooking and washing and for fresh water fishing. The postulated importance of site location on bluffs overlooking the beach may have been the breezes which drove away insects such as the ubiquitous black fly and mosquito. While these factors would affect the specific location of each settlement, there are many areas along the Honduran coast which exhibit these characteristics, just as virtually all of the coast is suitable for tropical forest agriculture.

Given these considerations, it is necessary to turn to other explanations of the distribution of Garifuna settlement along the Honduran coast in the 19th century. A basic principle of settlement geography assumes that, all things being equal, settlements will be equidistant from each other on a flat, featureless plain (King 1984; Kolars and Nystuen 1974). From the view of a tropical forest agriculturalist the coast is essentially featureless. Thus there are no natural features relating to agriculture or access to fresh water that would distort the even distribution of the settlements.

However, since the Garifuna were sea oriented and would not live very far, if at all, inland, the Honduran coast can be considered a linear environment much like a river valley. Although few geographers have addressed settlement spacing in such a situation, some archaeologists have. Analysis of prehistoric river valley settlements in Oaxaca and Belize (Flannery 1976) and Chiapas (Reynolds 1976) indicate that settlement along river courses are spaced in a regular manner. In the Etla Valley of Oaxaca, the initial agricultural settlement during the Early Formative was in the center of the Valley. Daughter communities were then founded between the initial settlement and the edges of the valley north and south along the river. Succeeding expansion established a community between each daughter community and the mother community. The spaces between these settlements were gradually filled in so that by the end of the Early Formative, villages occurred at intervals of 5km along the river (Flannery 1976: 176).

The regularity of the spacing does not seem to have been due to ecological factors but to social ones. Flannery found that the spacing was regular in spite of great disparity in the amount of suitable agricultural land available. He suggests that the 5km modal distance approximates some minimal distance usually maintained between communities for social reasons (1976: 177-178).

Given this model of settlement for the agricultural colonization of a uniform linear environment, we can hypothesize that if agriculture was the primary determinant of their settlement pattern, the Garifuna settlement pattern should approximate this model. The Garifuna communities should be evenly spaced around Trujillo becoming more frequent and more evenly spaced as populations increased.

It is possible that the earliest daughter populations would have been established at some distance from Trujillo and the space between them and Trujillo gradually would have filled in over time.

Next we asked ourselves what the settlement pattern might have been had access to wage labor opportunities been the primary factor. Habitations should have been within easy commuting distance of European settlements or commercial activities. Furthermore these settlements would have provided markets for agricultural products produced by the Black Carib Women. At the end of the 18th century and into the middle of the 19th century the only Spanish settlements of any size along the coast were at Trujillo and Omoa. The English had a few footholds on the Mosquito Coast centered on Black River (Palacios) and a single larger settlement in Belize. In both areas they were engaged in cutting wood, and needed laborers for that task. In Guatemala there were wage labor opportunities at the mouth of the Rio Dulce where Livingston is located today, and at Santo Tomas, near Puerto Barrios. Logging camps may have been associated with the populations in Belize and the Mosquito Coast; however, these would have been inland out of the survey areas and are not considered further.

Thus, under this model of the settlement system, no early settlement would be expected in the agriculturally suitable La Ceiba area, which only became a center of European activity with the beginning of the banana industry in the last quarter of the 1800s. Once initial settlements were made close to such wage and market opportunities, the growth of population would have led to the formation of other daughter communities which, with time, would have become evenly distributed around these centers of a money economy.

Once the two contrasting patterns were defined, it was necessary to determine how to identify a Black Carib site and if possible, how to date it. Obviously many settlements exist today, essentially along the entire coast of Honduras. According to our hypothesis, they have been occupied for different periods of time. It was necessary to determine which ones had been occupied first and to identify any abandoned Carib sites. If we follow Beaucage's conclusion that the settlement pattern seen today was largely established by about 1820 (1970: 61), there would presumably not be any or many abandoned sites. During our first pilot survey we determined that this was not the case.

Archaeological survey and oral history determined that a series of discrete Black Carib settlements had existed on the shore of the Bay of Amatique for some distance on either side of Livingston, Guatemala. However, over time, settlement has gradually contracted until, today, there is only one area outside of Livingston still occupied by permanent residents.

The most diagnostic artifacts of Black Carib culture that resist deterioration in an archaeological context are the small stones imbedded on boards, with which manioc is grated. No other group on the coast has ever made or used these boards. The stones from modern Honduran grater boards observed by us are small, 2 x 7 mm, quartz flakes produced by bipolar flaking. This is consistent with data collected by Walker and Wilk in Belize (1981). Under a microscope, examples from modern boards show distinctive signs of use. The exposed points are rounded and polished while the points sunk in the wood retain their angular facets. Because of their small size, archaeological samples can be most efficiently recovered by water screening through window screen. Unfortunately, irregular pieces of quartz of approximately the same size and shape are natural inclusions in the soils of the sites tested and it is a tedious job examining the thousands of pieces collected. Even when this is done, identifiable pieces are very rare--about nine out of every 500 pieces examined.

The size of the grater stones and their rarity in the archaeological record makes them impractical to use as markers of Carib sites during survey or even limited testing. The ethnohistoric record in some cases provided information on other kinds of material culture used by the Caribs. The items sent with them when they were deported from St. Vincent by the British did not seem very useful as ethnic markers, since they were either foodstuffs and seeds or tools of European manufacture. However, by the second quarter of the 1800s various English travelers noted that the Caribs were buying English tablewares and that they were the only group on the coast of Honduras that set an "English table." Additionally, one report differentiated the

Caribs from other native groups on the coast by the kinds of things that they would buy and also from other markets, presumable European, by saying that they liked the "old patterns" on their dishes (Young 1847: 126-127). Table I shows the items Young believed were wanted exclusively by the Caribs, in contrast to the Miskitos and other Indians.

TABLE 1

LIST OF GOODS WANTED EXCLUSIVELY
BY BLACK CARIBS

Handkerchiefs large, showy patterns, principally red and blue.
Osnaburg thread.
Reels and balls of cotton.
White tape and white bone buttons.
Yellow soap.
Flint guns, middling quality.
Razors, scissors, plates, dishes, mugs, jugs, cups and saucers, basins, and, old stock.
Hoes and bills.

Source: Young 1847: 126-127.

Field checks verified that European goods from various periods were found in abundance on all sites visited that were still occupied today and also those sites which had been abandoned in recent memory by the Caribs. Furthermore, some of the abandoned sites had artifacts only from the late 1800s, while a number of the currently occupied sites contained English ceramics from at least the second quarter and perhaps the first quarter of the nineteenth century. The latter sites exhibited abundant examples of various types of pearlware (such as transfer, handpainted, edged and annular) which were common from around 1790 to 1830 with a median age of 1810.

Young's observations on the preferences of the Caribs compared to Miskito and other native groups on the coast of Honduras made it clear that the others were not as interested in tableware as were the Caribs. We conclude that sites belonging to the former will be different from

Carib sites in terms of their consumption of English ceramics. However, if Caribs were using quantities of English ceramics and other European goods, so were the Europeans and Creoles themselves. Evidence from Omoa, the fort on the coast of western Honduras,(5) suggests that even the Spanish were using English goods, in the form of white salt glazed stoneware, possibly as early as 1760.

We developed a long term and a short term strategy for dealing with the identification problem. The long term strategy will be the future excavation of a series of sites known to have been inhabited by specific groups. This project will also provide us with additional information on problems of the relationship between ethnicity and material culture. The short term strategy, which allowed us to examine the settlement pattern question, was derived from the ethnohistoric and ethnographic information. Since the coast of Honduras was essentially bereft of "European" settlement during the first half of the nineteenth century, except for a few well known locations, and since the Black Caribs are the only non-European group known to have used quantities of European tablewares, it is safe to assume sites from that period with quantities of European goods, which are not known to have been inhabited by Europeans, will be Black Carib sites.

ARCHEOLOGICAL FIELD METHODS

Two means were devised to test the settlement pattern hypothesis. The first was included as part of the general survey of Black Carib villages we carried out jointly. This focused on Black Carib sites but included Miskito, English, and Spanish sites among the fifty visited in both Honduras and Guatemala. The general survey did not include subsurface testing of sites except in a few instances. The second strategy was a survey of two purposively selected five kilometer long stretches of shore. One was west of Trujillo where early sites would be expected if the wage labor hypothesis were correct, and the other extended east from La Ceiba in an area that would likely have been occupied early if the agricultural hypothesis were correct. Only areas on either side of fresh water sources were examined by subsurface shovel test pits. Any modern settlements in the survey area were tested also. If an abandoned site was found, a test pit was placed in the densest part of the site, as determined by shovel tests, to recover a collection that could be dated and compared to those from other sites. Currently occupied sites were tested with shovel tests to determine where concentrations of archaeological material were located and then a test unit was excavated by natural levels.

One topic that must be addressed before proceeding further is site formation and trash disposal processes. The Black Caribs say that they throw their trash into the ocean or bury it in pits in the sand. We saw them doing the latter in Corazal and found evidence of pit deposits in San Antonio and Limon. Disposing of items in the sea or in pits makes them difficult or impossible to find. Furthermore, most of the pits dug into the beach sand are later removed by ocean storms.

On the other hand, archaeological and ethnographic observations revealed that inland from the beach trash is deposited in piles as well as pits. Since these tend to be larger, they are easier to identify. They also seem to contain a wider range of artifacts than do some pits. However, even the piles are discrete and restricted loci, which makes it difficult to locate small sites even with fairly intensive shovel testing.

An additional factor which could affect our interpretations is the size of the initial habitations. They would have contained few people, with relatively few artifacts, making it more difficult to find the earliest occupations. Thus, while locations were tested fairly intensively during the survey, it is possible that small sites were missed and that the earliest occupations were not always identified.

RESULTS

Although we know that the Black Caribs landed on the shores of Trujillo in 1797, we did not find any conclusive archaeological evidence of their presence before 1820. This can be explained partially because of the small size of the earliest settlement, as discussed above, and the trash disposal patterns of the inhabitants. Additionally, most of the ceramics from this period cannot be used to identify the exact date of occupation because most of the types were popular during a 25 year time span. However, one type, a variety of the edge decorated type, does not seem to have been made until 1820.(6) Thus, conservatively, we can say that there are sites with evidence of occupation in the first quarter of the nineteenth century, but can not specify where within this period the occupations started.

In survey strip 1, next to Trujillo, five sites were tested: the presently abandoned site of Campamento, and the occupied sites of Cristales, (today a barrio of Trujillo), and the occupied sites of Gaudelupe, all west of Trujillo. In Cristales, Santa Fe and Guadelupe artifacts recovered from the survey and testing indicate occupation at least by 1820 and possibly earlier. The Carib artifacts from Campamento and San Antonio date to ca. 1830-1850, and a Spanish occupation layer was found below the Carib remains at Campamento.

In survey strip 2, next to La Ceiba, two occupied sites-Corozal and Sambo Creek--were tested. One abandoned house site was located which dated to the early 1900s. The presence of a metate on the latter site, which is seldom used in food preparation by the Caribs, suggests a non-Carib occupation. The artifacts at Carozal seemed to be earlier. The earliest date which could be assigned to them would be ca. 1860. Those at Sambo Creek would be slightly later. None of the presently uninhabited areas tested adjacent to rivers between the end of the 5 kilometer strip next to Trujillo and La Ceiba revealed any trace of historic habitation.

Evidence from the reconnaissance survey tends to confirm these results. On the upper coast of Honduras, sites such as Cusuna, Punta Piedra and Sangrelaya contain ceramics that date to the second quarter, and possibly to the first quarter, of the nineteenth century. Others, like Ciriboya, San Jose de la punta, and Cocolito have ceramics that date to 1850 or later. Three others date to the late nineteenth century. Some sites had no visible trash on the surface other than 20th century material, although historically they were known to have been occupied earlier.

DISCUSSION

In this study, the ethnographic and ethnohistoric research provided the initial stimulus for the definition of the research problem. Archaeological research was initiated to develop more specific implications to the hypothesis. The interaction between the two researchers and the different forms of data produced the results presented above.

The data sources varied in their reliability and validity, especially since not all data categories were available for all sites. The project could not have been as successful without using all sources. As an example of this interdependency, we can discuss the crucial piece of necessary data--the date when sites were first occupied.

Archaeological data from survey and testing was compared to that from the ethnographic interviews and the minimal information on settlement location in the documents. While there was never a serious conflict between the different sources of data, sometimes only one source was available for a particular site.

Not surprisingly, we found little ethnohistoric evidence that discussed the exact location or even the names of Black Carib communities, except for those that were adjacent to European sites. This latter data was relatively reliable and seems valid when checked archaeologically. Some of the Carib communities, adjacent to European settlements, failed to reveal archaeological evidence of their early occupation by Black Caribs when several sources make it clear that they had resided there. The reason may be that these were visited only on the survey and were not tested. On the other hand, archaeological evidence of early settlements such as Campamento, near Trujillo, mentioned in the documents, was obtained through testing.

The archaeological and ethnographic data sets, the latter gathered from interviews with older residents, were compared to each other to obtain data checks on those sites for which ethnohistorical information was not available. At Corozal and at Sambo Creek, the community founders were reported to have arrived in the last quarter of the nineteenth century. No older ceramics were found in these locations. The modern communities on the north coast of

Roatan were founded slightly later as reflected in both the interviews and the archaeology. On the Upper Coast, in those sites that were not tested and in which little material appeared on the surface, the ethnographic information was of paramount importance.

The results of this project are a further indication of the validity and usefulness of interdisciplinary projects. Alone, each of the disciplines would have contributed useful but inconclusive evidence for the resolution of the problems considered here. Indeed the problem would probably not have been defined without the wholistic ethnographic and ethnohistoric approach that Gonzalez has taken to her study of the Black Caribs. Together, the disciplines employed here were able to define the problem in such a manner that it was testable again using an interdisciplinary approach.

The data recovered by these different methods support the wage labor hypothesis with the ethnographic and archaeological data collected by the test pit survey providing confirming evidence. The area around Trujillo has the earliest evidence of occupations at Cristales, Santa Fe and Guadalupe (from at least 1820), with Campamento and San Antonio a little later (ca. 1830-1850). The earliest material from Corozal, near La Ceiba, is past the mid-point of the nineteenth century. One could argue that the population had not become large enough to have daughter colonies this far away from the Trujillo area. However, up the coast in the Mosquitia, which is further away, but where woodcutting was done at several locations by 1830, there were earlier settlements than in the La Ceiba area. Although undoubtedly there were other influences on the choice of site location, we feel that the evidence demonstrates that wage labor opportunities form a better explanation for the observed settlement patterns in early, as well as in later times.

NOTES

1. This paper was given at the seminar on ethnohistory and Archaeology of the Caribbean, sponsored by the Atlantic Program of Johns Hopkins University, on February 21, 1986. The first field survey was funded by the Graduate School, the Division of Behavioral and Social Sciences and the Department of Anthropology at the University of Maryland. In the following year further research was made possible through the Fulbright-Hayes Group Projects Abroad, the Fulbright Council for International Exchange of Scholars, and the Wenner-Gren Foundation for Anthropological Research. John Milner Associates, Inc. of West Chester, Pennsylvania provided a leave of absence for Charles Cheek. Our Honduran national host institution was the Institute Hondureno de Atropologis e Historia. We give grateful acknowledgement to all, as well as to the Garifuna in the many communities in which we worked and to the Jesuit missions along the coast, which provided substantial material and moral support during our travels.

2. Gonzalez (1986) presents the complete historical, ethnohistorical and ethnographic evidence upon which we draw for this section.

3. The issue of settlement pattern is only vaguely outlined for the Lesser Antilles. Bullen, Bullen and Brandford (1973), excavated a site on the bluffs of St. Lucia, which they concluded was Island Carib. They have generalized this situation to the Caribs of the Lesser Antilles (1972). Evans (1968:101) notes that sites on Dominica, some of which he suggested were "historical Carib," were usually on high points overlooking the cove or bay. Numerous contemporary references from the late 18th century describe the Black Carib settlements as "overlooking the sea, but these could presumably be beach habitations. However given the intensity of the conflict between the Caribs and the Europeans, we assume they would not have placed themselves in such a vulnerable position. It should be understood, however, that hard evidence for bluff habitations is non-existent.

4. We discussed these issues with several environmental scientists in Honduras, including Dr. Jorge Gonzalez and Dr. R. H. Stover, both of whom gave generously of their time and knowledge. We greatly appreciate their contribution and hope we have not misrepresented their views.

5. This material was excavated by George Hasmann, an archaeologist of the Instituto Hondureno de Antropologia e Historia and examined by Cheek in 1984.

6. The type referred to has elaborate floral and other designs molded on plate rims. Research by George Miller, archaeologist at Colonial Williamsburg, has indicated that this decorative type was not made before 1820 (personal communication 1985).

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